

Coffee Production and Trade in Latin America

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Foreword

Latin America is the primary source of the world's coffee production and exports. Two countries—Brazil and Colombia—have been the world's leading exporters. Their production and exportable supply levels traditionally have had a significant influence on the world market, and this situation remains true today. However, in recent years within these and other coffee producing and exporting countries of the region certain trends have emerged that deserve review and analysis. These include the economic dependency on coffee as the primary source of foreign exchange, the stress on technological innovations in production, shifts in export markets, and the role of interregional coffee policies.

Since the massive frost that hit Brazil's coffee-producing area in July 1975, the entire Latin American coffee region has ridden the wave of an unprecedented coffee price boom. However, prices now appear headed toward pre-1975-frost levels. The market oscillations brought on by the frost have both intensified and altered pre-frost trends in production and trade policies. This report attempts to focus on these trends and provide analysis of where they are likely to lead Latin America's coffee industry in the short run. The report also provides an overview of the region as well as analysis of the situation in individual major coffee-producing countries.

This publication is based on information obtained by the author from reviews of field reports and publications of the U.S. Departments of Agriculture and State, books and articles on coffee, and a field trip to Mexico and Central America during the fall of 1977. (See appendix I for literature citations.) The coffee reports of the U.S. Agricultural Attachés in Latin America have been an invaluable source of statistical information and analysis. Other important sources of information have been the International Monetary Fund for export-earnings data, and the International Coffee Organization and the Pan American Coffee Bureau for coffee export statistics. The U.S. Department of Agriculture's quarterly coffee circulars have been used exclusively for coffee production statistics.

The author wishes to express his appreciation for the valuable assistance furnished by U.S. Agricultural Attachés and their staff members in all the countries visited. Thanks also go to Robert M. McConnell, Acting Deputy Director for Analysis, William C. Bowser, senior coffee analyst; and C. Milton Anderson, all of the Horticultural and Tropical Products Division, for their critiques of this publication.

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Coffee Production and Trade in Latin America

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Overview of Latin American Coffee Production and Trade Policies

Status of the Industry

Latin America provides about two-thirds of the world's annual coffee production and about 60 percent of its coffee exports. For Latin America, coffee is the most important agricultural export commodity and has represented the economic backbone of many countries in the region for decades. As a major source of foreign exchange, the role of coffee is crucial to the trade balance and the domestic vitality of many of the national economies in Latin America.

Economic development in many of these countries is highly sensitive to trends in exports. In countries such as El Salvador, Haiti, and Colombia, for example, total export earnings are heavily dependent on coffee, and imports must be largely financed from foreign-exchange earnings. At the same time, investment depends upon increasing imports, and growth depends upon the rate of capital accumulation. Thus, any drastic decrease in the value of exports is likely to be reflected in a reduction in investment and economic growth.

For countries that are heavily dependent on coffee, low world prices can cause severe economic depressions—particularly difficult for governments, because financing for public development programs is heavily dependent on the foreign-exchange earnings that come from coffee as well as the revenue derived from export taxes.

Coffee in Latin America traditionally has been a boom-or-bust industry. When prices are high, production has been increased out of proportion to demand, causing the price to swing disastrously low. Largely as a result of the July 1975 frost in Brazil, coffee producers have been experiencing the fruits of an unprecedented earnings boom. The nations of Latin America registered record coffee export earnings

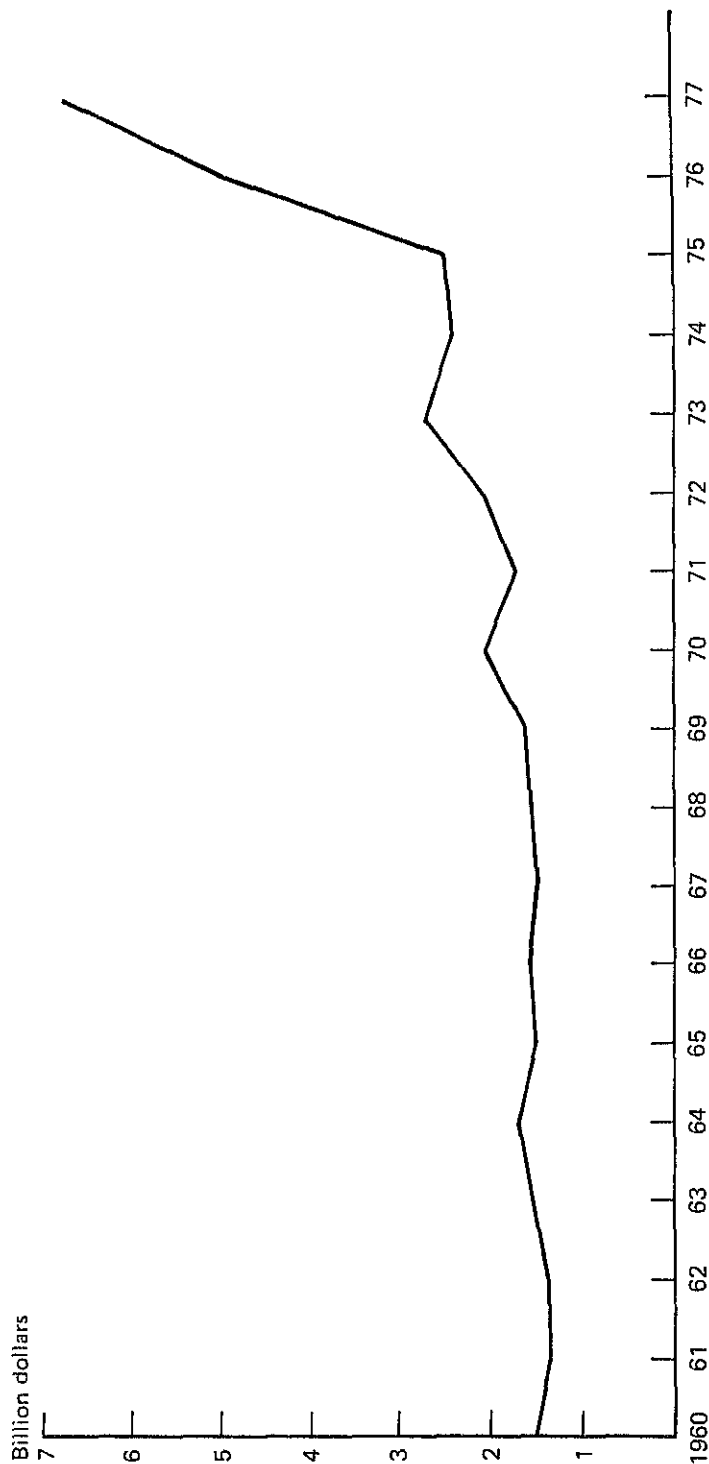
equal to \$5.0 billion in 1976 and \$6.7 billion in 1977, compared with an annual average of \$2.3 billion during 1971-75. Brazil and Colombia—the world's leading coffee exporters—earned \$2.3 billion and \$1.5 billion, respectively, in 1977. For the coffee exporting nations of Latin America, 1976 and 1977 earnings from coffee shipments were records, despite depressed export volume for many countries (appendix II). This boom period has not been without its problems, however, as excess liquidity from coffee earnings has heightened inflation in several countries in the region.

The bust side of the coffee cycle now appears to be looming on the horizon. Increased production and exportable supplies are now available to the world market, while demand remains relatively depressed as a result of lingering consumer resistance to high prices. Since any adverse effects of the August 1978 frost in Brazil have been found to be minimal, world prices—which have been dropping from their record high of April 1977—continue at relatively low levels. As a result, Latin America's coffee export earnings are expected to be off considerably in 1978 and 1979. For 1978, Latin America's producers partially offset declining unit value export prices with an increased volume of exports.

Trends. The third USDA estimate of the 1978/79 world coffee crop is for total production of 74.5 million bags (60 kilograms each)¹. This is an increase of 4.9 million bags from the 1977/78 outturn and 13.3 million bags above the low 1976/77 crop. For 1978/79, coffee production in Latin America is estimated at 49.3 million bags, or 66.2 percent of anticipated world production. Brazil and Colombia, as the world's top two producers, are expected to account for 26.8 and 14.5 percent, respectively, of the 1978/79 world crop. Output by other Latin American producing nations is expected to total 18.5 million bags, or 24.8 percent of the world total, a significant increase since the late 1960s.

¹ FAS coffee circular FCOF 1-79, Jan. 1979.

Coffee Export Earnings For Major Latin American Coffee Producers, 1960-77



Sources: International Monetary Fund International Financial Statistics May 1978, February 1979, International Coffee Organization, U.S. Agricultural Attaches.
(U.S. dollar values are based on current prices).

Brazil traditionally has been the world's largest producer, and until two decades ago produced over one-half of the world's annual coffee output. In recent years, Brazil's production has been declining in relation to other producers. Various factors—including planned crop diversification, natural disasters (e.g., the 1975 frost), increased production in other Latin American countries, and the expansion of production in Africa—have influenced the relative decline of the Brazilian share of world output. Nevertheless, Brazil remains the pivotal country to watch, as significant increases or decreases in coffee output greatly influence the international market.

Since the devastating July 1975 frost, the Brazilian Government has implemented a \$1 billion rehabilitation program. Some 900 million new coffee trees have been planted to replace those damaged or destroyed by the frost. The emphasis has been to place many of these new trees in frost-free areas, thereby lowering Brazil's vulnerability to frosts, which have repeatedly plagued the industry. Since Arabica coffee trees generally do not start bearing fruit until 3-4 years after planting and an additional year is needed for the trees to become economically productive, the total impact of the rehabilitation program on aggregate production will not be felt until 1980/81 at the earliest. The Brazilian Coffee Institute (IBC) expects production to reach 28 million bags in that year.

Coffee production in Colombia is also trending upward, with a record crop of 10.8 million bags expected in 1978/79. For years, Colombia has been a steady supplier of 10-15 percent of annual world production. Since the 1975 Brazilian frost, Colombia has followed a course aimed at expanding its share of the international market. These efforts have resulted in successive record crops in 1976/77 and 1977/78, and the first 10-million-bag-plus crops in Colombian history.

Most of the remaining major coffee producing countries in Latin America also are following ambitious improvement programs, which are expected to lead to substantially larger crops. No country in this group² is planning a massive expansion in planted area. Instead, they are looking to higher yields achieved by replanting schemes and by adopting the technical innovations of high-yielding progressive producers, such as Costa Rica and El Salvador. These efforts are already proving successful, as record or near-record crops are now forecast for 1978/79 in Costa Rica, Guatemala, Honduras, Nicaragua, Ecua-

doi, and Peru. The growth in production in these countries along with the increased production potential in Colombia and the trend in Brazil toward production in frost-free areas all combine to make the world coffee market less vulnerable to the impact of another frost in Brazil of the same magnitude as the 1975 frost.

The outlook, then, points toward an expanded production potential in Latin America. However, future production will be heavily influenced by prices. The recent period of high coffee prices has stimulated an increased use of fertilizer and better cultural practices that could, in turn, result in overproduction and lower prices. Whether or not the cyclical pattern of the coffee market can be broken by the price stabilization provisions of the current International Coffee Agreement remains to be seen (appendix III).

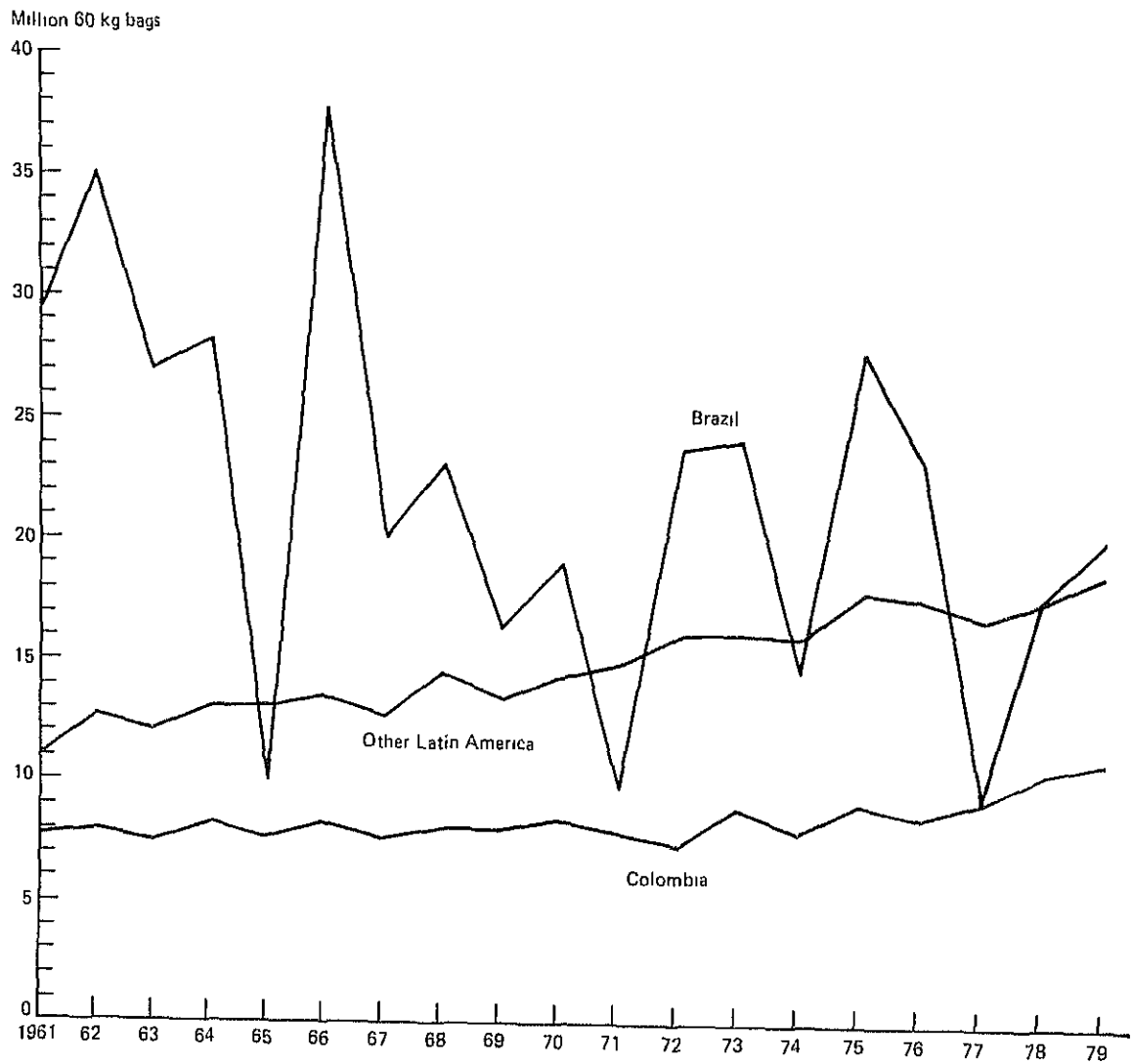
Coffee production costs relative to prices received by growers provide an important element in analyzing the possible future direction of Latin America's coffee industry. Farm costs in general have trended upward in recent years. In particular, wage rates have shown a strong upward pressure resulting from high rates of inflation, rising food costs, and government efforts to placate city industrial workers as well as their rural counterparts.

Large, efficient producers in some countries have partially ameliorated rising labor costs by gains in productivity through expanded use of yield-increasing technology. For those growers, already at high average yields, further gains will be more difficult and costly in terms of inputs. However, there are many large and medium-size growers who, with sufficient technical skill and the capital to finance inputs, could fairly easily increase productivity at a rate that would more than offset rising production costs. Small growers, however, with limited capital and access to credit may find the challenge excessive, and coffee production could decline in this sector.

Trends in the use of technological innovations in coffee throughout Latin America also are linked to production costs. Government programs designed to encourage the replacement of native varieties with high-yielding varieties, increase planting densities, reduce shade, and increase fertilizer use must be viewed as a technological package. The new high-yielding varieties now coming into production are adapted to more sunlight and are more responsive to fertilizer. The increased density of plantings is required to obtain the high yield per hectare needed to lower costs per unit of output. Application of fertilizer without substantial shade reduction is not economic, since the presence of excessive shade inhibits response to fertilizer. Removal of shade without the continued use of fertilizer will result in

²In addition to Brazil and Colombia, major producing countries include Mexico, El Salvador, Guatemala, Costa Rica, Honduras, Nicaragua, the Dominican Republic, Haiti, Ecuador, Peru, and Venezuela.

Latin America: Trends in Coffee Production, 1961-79 *



* Crop Years Ending Sept 30

1978/79 Forecast based on Foreign Agricultural Service Coffee Circular FCOF-1 January 1979

one or two heavy crops followed by a drop in production.

Because of the trend toward the use of new technology, it would appear that individual producers, producer cooperatives, and/or governments will have to commit themselves to continuing use of high levels of costly inputs if they are to remain viable. (See appendix IV for price data by month.)

Production and Trade Policy Implementation

In each of Latin America's coffee producing countries the public sector is involved, to varying degrees, with coffee policy formulation and implementation. Government or quasi-government agencies are responsible for implementing policies ranging from technical assistance to producers to regulating domestic and export marketing of coffee. Most of the national coffee institutes in Latin America buy, store, sell, and export coffee. In a few countries, such as El Salvador and Mexico, the coffee institutes also operate processing facilities. In no case do these government or quasi-government organizations function as producers. Actual production throughout the region is carried out by the private sector, dominated—depending on the particular country—by estate producers or small growers.

These coffee organizations function to maintain the general well-being of their respective industries by fostering supply, price, and revenue-stabilization measures. They often set minimum prices for growers and in times of excess supply and low prices buy coffee from producers in order to defend the minimum price.

These agencies, along with or as part of ministries of agriculture, offer growers technical assistance programs to upgrade the coffee sector. In general, governments have been very active in this area, providing extension services, implementing replanting schemes, and—in some cases—subsidizing the cost to growers of new high-yielding coffee seedlings, fertilizer, fungicides, and insecticides. In recent years, there has been a trend toward providing more growers with long-term as well as short-term loan financing to stimulate capital improvements within the coffee sector.

These agencies also provide the various coffee industries with regulatory and quality-control functions. They allocate coffee export earnings by setting minimum prices to growers, minimum registration prices for exports, and export tax rates. In most cases, a substantial part of the export tax revenues is recycled back into the coffee sector to finance coffee programs, as well as for general infrastructure development in coffee producing regions. (See appendix V for a list of coffee organizations in Latin America.)

Coffee Marketing

Processing and internal marketing. Coffee is processed in Latin America either by the dry or wet method. The dry method is common in Brazil, while the wet method is a typical processing mode in countries producing Mild coffees.³ Under the dry method, coffee cherries are dried in the sun and then cleaned by hand or machine. The cherries are then hulled in machines that remove the dried husk of the cherry and the parchment covering the beans—all in one operation. The result is green coffee, the typical form in which coffee enters international commerce. (See appendix VI for common coffee terms.)

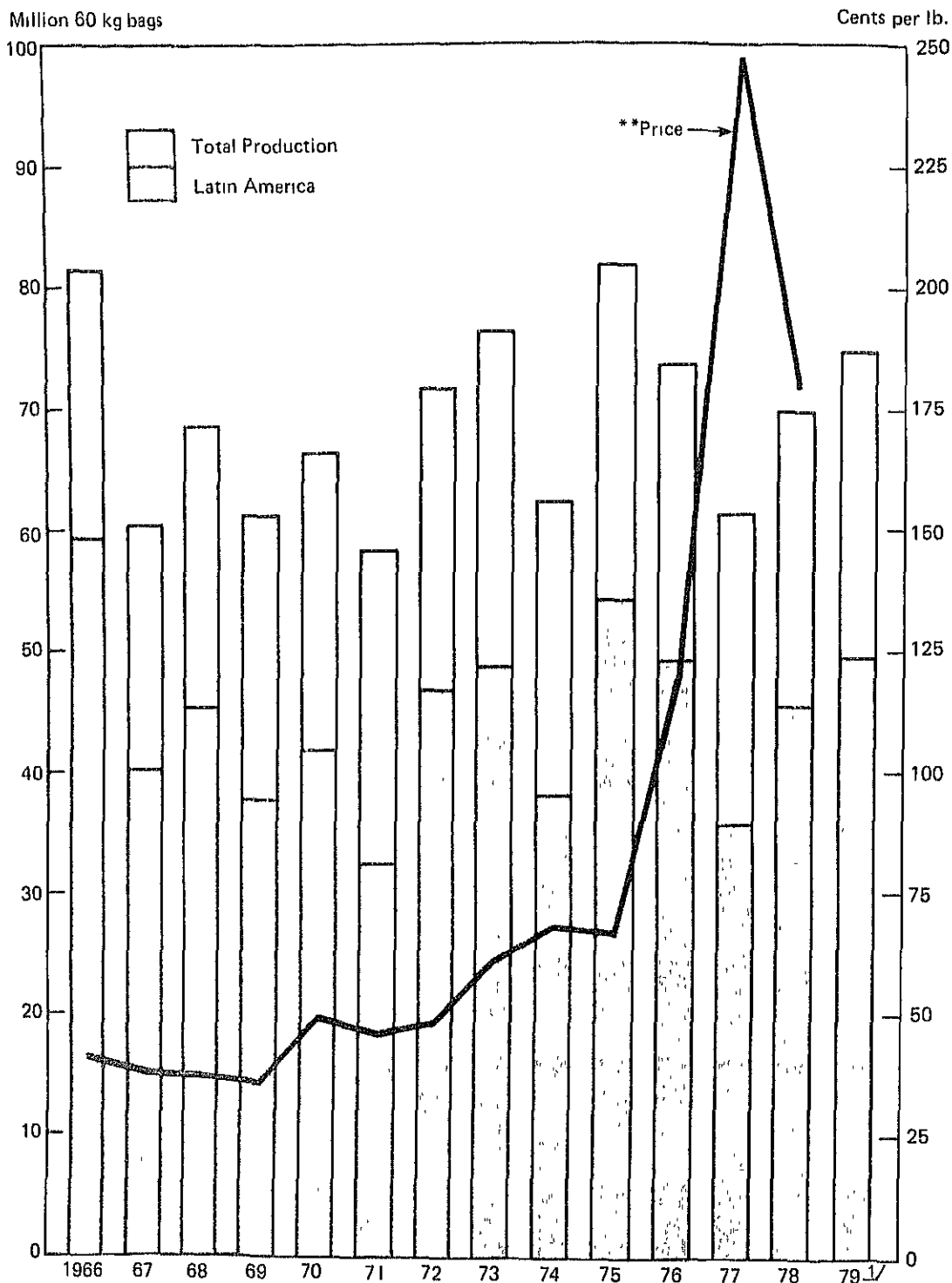
More complicated, the wet process requires a greater capital outlay for machinery and facilities, but on average results in a higher quality bean. After initial washing to float off any stalks or light cherries, the coffee is pulped in water to remove the flesh of the cherry. The beans are then fermented and washed to remove the remaining mucilage. The beans, while still in their parchment covering, are dried thoroughly. Finally, the parchment is removed by machine and the green coffee is ready to be graded for its entrance into commerce.

The structure of the internal marketing of coffee varies with the form in which the typical grower sells his coffee. In many countries in Latin America, growers still do not have the financial capability to process their coffee beyond the sun-dry stage. Thus, typically the farmer sells his coffee either in cherry form or to finishing mills in the form of parchment or dried cherry. These processing facilities may be privately owned by larger growers, grower cooperatives, exporters, and/or government agencies. In several countries there has been a strong trend toward the formation of coffee cooperatives. Besides their processing functions, these organizations often make production loans to growers, provide medium-term storage facilities, sell coffee to exporters, or export the membership's coffee directly.

Coffee brokers and other intermediaries also have traditionally been active in Latin America. They may act on their own behalf or as agents of exporters, domestic roasters, or foreign importers. Government agencies in several countries—such as El Salvador, Mexico, and Brazil—play an active role in the domestic and external marketing of coffee, as well as provide regulatory services. From the regional perspective, many of the participants in the marketing

³ Latin American producers of Mild-Arabica coffees (according to the International Coffee Organization): Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, and Venezuela.

**Green Coffee: Total World and Latin American Production and
ICO Composite Price, Basis 1968 Agreement, 1965/66-1978/79***



*Crop Year Ending Sept. 30

**Monthly Coffee Prices (July 1975-December 1978) by Representative Grades Contained in Appendix IV
1/ 1978/79 Forecast Based on Foreign Agricultural Service Coffee Circular FCOF-1, January 1979

system may perform more than one function. Some larger growers, for example, handle coffee from harvest through exporting and some processors are involved in exporting.

Trends in domestic consumption and related policies. On a volume basis, consumption of coffee in Latin America has trended upward since the 1960's, largely keeping pace with population growth and increases in disposable income. However, domestic coffee consumption in Latin America's producing countries remains relatively low on a per capita basis, compared with consumption in the United States and Europe. Only in Brazil does a relatively large share of production enter domestic channels.

Government policies, in general, have attempted to maintain an adequate supply of coffee for domestic needs. This has been a problem in some countries during the recent export price boom because of scarcities and high retail prices. Mexico, for example, attacked this problem by requiring that for every two bags of coffee exported, one bag would be set aside for domestic use.

In times of overproduction and weak export prices, Latin American governments have attempted to promote domestic consumption. One policy tool has been to prohibit the adulteration of coffee with substitutes.

Latin America: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Brazil	Other Latin America	Total Latin America	Consumption as share of total Latin American production
	<i>Mil. 60-kg bags</i>	<i>Mil. 60-kg bags</i>	<i>Mil. 60-kg bags</i>	<i>Percent</i>
1960/61.....	7.0	3.7	10.7	22.4
1965/66.....	7.5	4.8	12.3	20.7
1970/71.....	8.3	5.7	14.0	43.1
1975/76.....	8.0	6.0	14.0	28.6
1976/77.....	7.0	5.5	12.5	35.3
1977/78.....	7.5	6.2	13.7	30.3
1978/79 ¹	8.0	6.4	13.4	29.2

¹ Forecast based on Foreign Agricultural Service coffee circular FCOF 1-79, Jan. 1979 (see appendix VII). Source: U.S. Agricultural Attachés.

Trends in exports and export policies. The quantities of Latin American green, soluble, and roasted coffee exports have trended upward in recent years in line with production, but the region's share of world exports has fallen off somewhat. The interregional shares of export markets also have shifted, with Brazil's dominant share of the world market gradually being eroded while Colombia's share has held fairly steady until recently. Other producers of Milds have gradually increased their shares.

Much of the shifting of world market shares has been associated with the growing market importance of coffee exports from Africa and Asia. The rise in African Robusta exports can be attributed to the emergence of the soluble coffee industry and the preferential tariff treatment given to it by the European Community. At the same time, the changes in market shares held by the major Latin American producers have resulted, in part, from their willingness to sacrifice some of their export shares in order to defend prices.

World Coffee Exports, Selected Years, 1960-1978

Year (Jan.-Dec.)	Total world	Total Latin America	Latin America as share of world total
	<i>Mil. 60-kg bags</i>	<i>Mil. 60-kg bags</i>	<i>Percent</i>
1960.....	42.4	30.6	71.0
1965.....	44.2	28.1	63.6
1970.....	52.7	33.4	62.7
1975.....	57.9	36.3	62.7
1976.....	58.5	35.9	61.4
1977.....	46.9	28.0	60.0
1978 ¹	55.7	35.1	63.0

¹ Preliminary. Sources: Pan American Coffee Bureau, International Coffee Organization, Foreign Agricultural Service (see appendix VIII).

Brazil sells chiefly unwashed Arabica coffee, which traditionally has been the mainstay of many coffee blends in both the United States and Europe. Colombia exports high-quality Arabicas that are particularly mild and flavorful, while Mexico and Central America dominate the exports of Latin America Other Mild coffees. In general, producers of Other Milds have sought to upgrade the quality of their exports through improvements in processing and quality control. Colombia remains very vigilant in its efforts to maintain its reputation as the world's volume exporter of high-quality coffee. Brazil, in contrast, seeks to export a competitively priced, efficiently produced product.

The flow of Latin American coffee exports into the international market has been influenced by several factors, among which are harvesting patterns, national export policies, and International Coffee Agreement export quotas. The physical flow of green coffee exports historically has displayed a seasonal pattern, creating serious marketing problems that generally have put downward pressure on prices when aggregate harvests appear good (appendix IX).

Complicating this situation is the fact that Latin American coffee producers—other than Brazil and Colombia—generally have inadequate storage facilities and therefore are under pressure to ship new-crop coffee as soon as possible after harvest. Because of limited storage and the potential problem of quality deterioration in stored coffee, Latin American producers have tended to rush coffee to market, particularly when prices are declining. In recent years, national governments have sought solutions to the export flow problem through investment in storage facilities, encouragement of producer cooperatives, national stocking measures, and at times withholding exports as a group.

The flow of coffee exports from Latin America also has been influenced by marketing policies, principally by the levels of export taxes and minimum export registration prices. Export taxes, while providing a means by which governments may allocate revenue between the public and private sectors, can also be used as a deterrent to exports.

For example, if a government raises export taxes to the level where exporters lose their profit margin, the exporters will stop shipping until the taxes are lowered, the minimum grower prices are lowered, or they receive higher price offerings from foreign importers. Until one or more of these situations occur, exporters may withhold coffee from the market. Such policies have been attempted by some Latin American producer governments as export prices declined from their April 1977 high. The aim of these policies has been to diminish market supplies and thereby put upward pressure on prices.

Trends in coffee exports from Latin America also have been influenced by export quotas set by the

1962 and 1968 International Coffee Agreements. These agreements set market shares that determined how much coffee each producer could ship annually and were held constant through the life of the agreements. Mexico and Central American nations favored a change in the quota system when the 1976 International Coffee Agreement was being formulated. Their position was that the old agreements were biased in favor of Brazil and against producers of Other Milds, who were capable of increasing their production and exports beyond what their shares had allowed. As a result, a revised export quota formula was developed for the 1976 agreement. This formula has aimed at encouraging exporters to ship as much coffee as possible during the first 2 years of the agreement. The shipments during this period will provide a basis for determining any future export quotas (appendix X).

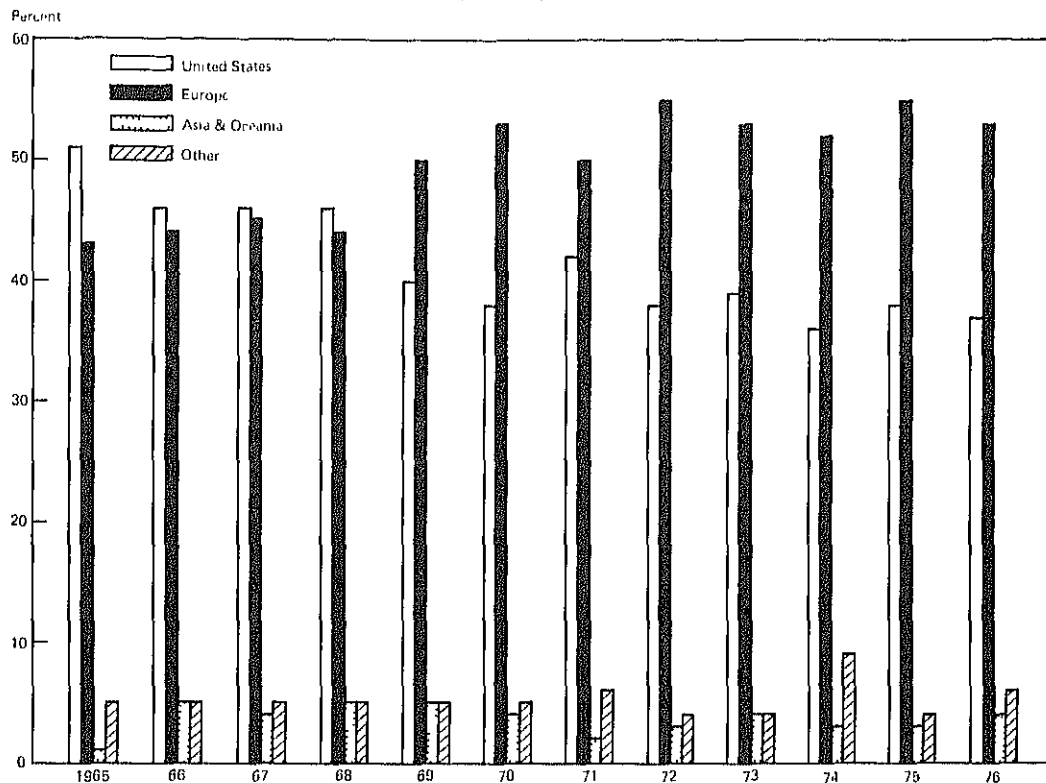
Export markets for Latin America's coffee are heavily concentrated in a small group of consuming countries in Western Europe (particularly West Germany), Japan, and the United States. Latin America's largest traditional single market—and the world's single largest coffee consumer—is the United States. Although Latin America experienced record earnings from U.S. imports of green, soluble, and roasted coffee in 1977, the U.S. market's share of the total Latin American coffee trade has declined noticeably in recent years. This trend has resulted in part from a drop in per capita use in the United States and increased consumption in Europe and Japan.

Changing life styles and consumer tastes have contributed markedly to a decline in U.S. per capita (over 15 years of age) consumption from 26.9 pounds (green-bean equivalent) in 1946 to 16.2 pounds in 1975.⁴ The spectacular price raise during the past 2 years has intensified this trend as U.S. consumers cut back daily usage, switched to other beverages, or boycotted coffee. These factors combined to reduce per capita consumption to only 9.4 pounds in 1977 for the total population. For 1978, per capita consumption totaled 10.5 pounds, all of the increase coming in the second half of the year. The increase reflects a nearly 25 percent increase in imports and a 15 percent increase in roastings. In the long term, the declining consumption pattern appears difficult to significantly turn around, despite the drop in green-bean import prices since April 1977.

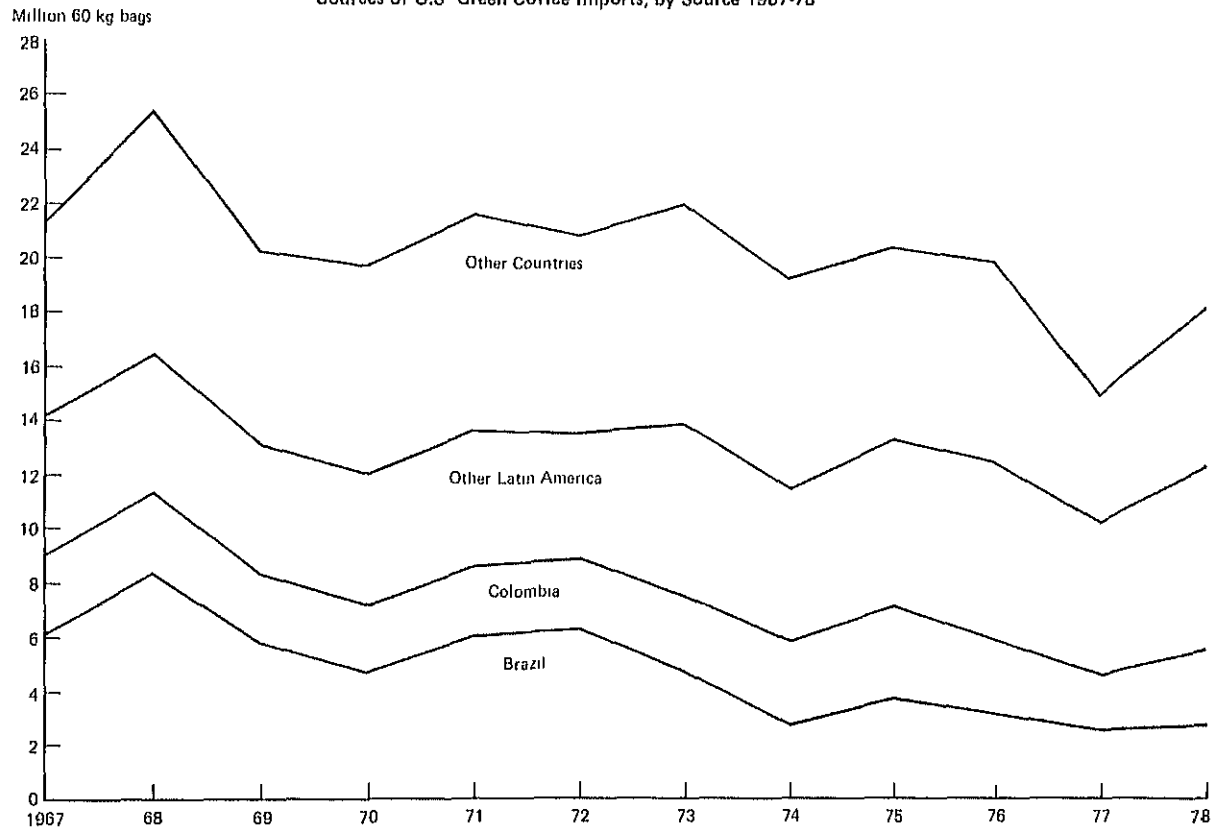
In contrast to the declining long-term trend in coffee consumption in the United States, consumption in Europe and Japan has trended upward in recent years. Greater disposable income in Europe and changing income levels and life styles in Japan have fostered a growth in per capita demand for

⁴"Coffee Consumption in the United States, 1946-1976." (FAS M 275, Feb. 1977), FAS/USDA.

Latin American Green Coffee Exports to Specified Areas,
by Percentage, 1965-76



Sources of U.S. Green Coffee Imports, by Source 1967-78



United States: Volume of Green Coffee Imports, Selected Years, 1960-78

Year (Jan.-Dec.)	Total imports	Imports from Latin America	Latin America as share of total import volume
	<i>Mtl. 60-kg bags</i>	<i>Mtl. 60-kg bags</i>	<i>Percent</i>
1960	22.1	18.2	82.4
1965	21.3	14.4	67.6
1970	19.7	12.0	60.9
1975	20.3	13.3	65.5
1976	19.8	12.4	62.6
1977	14.8	10.7	68.9
1978	18.1	12.2	67.4

United States: Value of Green Coffee Imports, Selected Years, 1960-78

Year (Jan.-Dec.)	Total imports	Imports from Latin America	Latin America as share of total import value
	<i>1,000 Dol.</i>	<i>1,000 Dol.</i>	<i>Percent</i>
1960	1,004	877	87.4
1965	1,061	793	74.7
1970	1,160	771	66.5
1975	1,562	1,097	70.2
1976	2,633	1,786	67.8
1977	3,861	2,648	68.6
1978	3,728	2,664	71.5

Source: U.S. Department of Commerce.

coffee. As a result, Latin America's volume sales to Europe and Japan have expanded noticeably in recent years.

While the price boom has put a dent in European consumption, it has been much less pronounced than in the United States, as European countries are accustomed to paying high prices for premium grades

of green coffee. The adverse impact of high coffee prices on demand has also been softened by high tea prices. All in all, the growth of the European and Japanese markets in recent years has largely offset the decline in the United States and should continue to do so in the near future.

Europe: Volume of Green Coffee Imports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total imports	Imports from Latin America	Latin America as share of total import volume
	<i>Mtl. 60-kg bags</i>	<i>Mtl. 60-kg bags</i>	<i>Percent</i>
1960	17.0	10.5	61.8
1965	21.6	12.9	59.7
1970	27.3	17.2	63.0
1975	31.9	19.0	59.6
1976	32.2	17.4	54.0
1977	26.5	14.2	53.6

Source: Pan American Coffee Bureau; G. Gordon Paton, Jr., & Co., Inc.

International Cooperation Among Latin American Coffee Producers

market stabilization efforts. Latin America's coffee industry has a long history of regional and national efforts to bring stabilization measures to bear on the volatile coffee market. These efforts have had to deal with certain market problems endemic to the international supply and demand for coffee. These problems include supply volatility, inelastic demand, and price instability.

First, annual world coffee production has been characterized by significant year-to-year variations. Historically, the extreme concentration of coffee production—notably in Brazil and Colombia—has magnified the effects of annual production variability. However, Brazil's large stocks of coffee, particularly from the mid-1960's up until the 1975 frost, tended to moderate price swings resulting from year-to-year production variations.

Second, the demand for coffee has been relatively inelastic (e.g., if the retail price for coffee increased by 10 percent, demand could be expected to drop only by 2 percent).

The result of very changeable supply levels versus relatively static demand has led to sharp year-to-year price changes. Thus, large crops and stock levels tend to drive prices down because of the lack of a compensating increase in demand. When crops are small and stocks low, prices are usually pushed up significantly. Periods of high prices spur a production expansion phase that ultimately forces prices down.

While this is a normal market reaction for commodities, the supply increase in coffee has tended to be excessive to market needs, owing in part to the inelasticity of demand.

These market forces, then, have induced periods of production expansion and stagnation along with cycles of high prices and depressed prices. From the 1920's to the early 1940's, the coffee market was characterized by overproduction and depressed prices. During this period several international conferences were held to bring about market stabilization and regulating trade in coffee. Although Latin American producers were active in these conferences, no effective agreements were reached until the outbreak of World War II.

In 1940, the Inter-American Coffee Agreement was signed by the United States, Brazil, Colombia, and 12 other Latin American producers. This agreement regulated coffee trade in the Americas by the use of a quota system and fixed prices. The agreement sought to solidify U.S. relations with Latin America during the war and at the same time deal with the wartime problem created by the closing off of European markets.

After World War II, coffee prices were allowed to move to market levels, the quota arrangements were

terminated, and the agreement expired in 1948. By the early 1950's, prices were moving up, largely because of increased demand spurred by an economically resurgent Europe, a drawing down of stocks in Brazil, and generally reduced harvests throughout Latin America. This period of high prices in the early 1950's precipitated an expansion in coffee production, resulting in depressed prices by the close of the decade (e.g., 46 cents per pound in 1959, compared with 80 cents in 1954).

In response to falling prices, Latin American producers moved to regulate their coffee trade. In 1957, seven Latin American producers⁵ met in Mexico City to conclude an agreement to withhold supplies from the market in order to stem the downward trend in prices. In 1958, Latin American producers agreed among themselves to limit exports as part of the Latin American Coffee Agreement. The effort failed, largely because of the growth in availability of exportable production in other parts of the world, most notably Africa.

However, when prices for both Latin America's Arabicas and Africa's Robustas continued to decline, American and European consumer interests were aroused to help stabilize the price of coffee and thereby the export earnings of countries dependent on coffee. These events culminated in 1962 with the negotiation of the first International Coffee Agreement (ICA). The objective of this agreement was to provide adequate coffee supplies to consuming countries and maintain a relatively stable world market for producers. These goals were to be attained principally through a system of export quotas agreed upon annually by producers and consumers.

The first International Coffee Agreement expired in 1968 and was replaced in the same year by a new 5-year agreement—the second International Coffee Agreement. The objectives and mechanisms of the 1968 agreement remained relatively unaltered from those of the 1962 agreement. The major changes involved creation of a diversification fund to enable countries heavily dependent on coffee to shift resources to more lucrative activities, and the monitoring of members' production goals in order to ensure that their goals were consistent with estimated world demand.

The two agreements worked reasonably well at holding established floor prices for coffee. However, after production in Brazil had been cut by frosts and—beginning in 1969—disease problems, producers and consumers increasingly found it difficult to agree on terms of the agreement's operation.

A major cause of disagreement centered on producer demands that price ranges should take into

⁵Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Mexico, and Nicaragua.

account the U.S. dollar devaluation. Since no compromise could be reached, the second ICA was officially suspended in December 1972. For a time after the suspension, producers—led by Brazil—attempted to keep prices up by limiting supplies to the world market. These efforts failed, and prices were trending downward in early 1975, when producers again began to show interest in a new agreement. By the fall of 1975 a consensus was reached for a new agreement, relying on export quotas as the main policy instrument.

The Third International Coffee Agreement went into force in October 1976, with export quotas suspended. When—and if—quotas come into force, the Council of the International Coffee Organization (ICO) will determine a target price range based on its estimate of current and long-term trends and will institute quotas to defend minimum prices. The global quota will be divided among producers, based on their market shares (appendix X). To ensure that countries comply with provisions of the agreement, the ICO will issue stamps to member exporting countries equal to their annual quota, and member importing countries are prohibited from accepting coffee from producing members without ICO stamps.

Recent group actions. In the months following the disastrous July 1975 frost, Latin American coffee producers' earnings reached record levels. While inflation was a problem because of excessive liquidity in some economies, producers viewed the boom as a valuable resource for correcting persistent balance-of-payments deficits and for generating investment capital. Since mid-April 1977, when the boom peaked, prices have fallen sharply.

With tumbling world prices has come a series of Latin American producer proposals and actions, within the framework of the ICA as well as outside of it, which has been aimed at influencing coffee prices and thereby stabilizing earnings of producers. In August 1977, Mexico proposed the creation of a coffee fund for the stabilization of prices within the terms of the ICA. This proposal, with support from other Latin American countries, was presented to the International Coffee Council for study in September 1977 (Currently, the proposal and the general feasibility of international stocking arrangements are under review by the International Coffee Organization).

In October 1977, as green coffee prices continued their sharp decline, some Latin American producers withdrew from the market. At a late October meeting in El Salvador, producers of Other Milds agreed to suspend their exports of coffee until prices improved to the \$2-per-pound level (the price of other Mild Arabicas at that time was about \$1.70 per pound). This action was followed in early November by the Manaus Agreement between Colombia and Brazil.

The two countries agreed not to sell coffee at less than the ICO indicator price for Other Milds and Robustas (see appendix IV for monthly average prices).

These actions helped to raise green coffee prices, coming at a time when inventories in major consuming countries were relatively low and importer buying interest could be expected to pick up as the coffee harvests began in many countries. The impact of these actions, however, was short-lived. Producers of Other Milds were forced to reenter the market in December because of storage problems and the economic hardship of independently holding coffee from the market. On December 5, Brazil reduced its long-held minimum export price from \$3.20 per pound to \$2.10, thereby moving closer to actual market prices. The \$3.20 price was substantially above world market prices and had effectively inhibited Brazilian sales to the international market. Brazil was also active in 1977 in buying coffee from other producing countries to stem the downturn in prices.

In March 1978, eight⁶ producers of Other Milds met again and announced that they would withhold supplies from the market. The measure was taken to force green coffee prices back to \$2 per pound. The eight reportedly were in a position to withhold about 4 million bags or about the quantity of coffee the group had as reserves. The action had a negligible impact on the market and prices continued to fall through the spring.

As the international coffee market experienced the economic effects of another frost in Brazil during August 13-15, 1978, the 16-month slide in green coffee prices came to an abrupt halt, and—at least temporarily—sustained a significant increase in both spot and futures prices. This was a particularly important development, since the frost and the subsequent uncertainties as to the extent of the damage came barely a month before the scheduled meetings of the Council of the International Coffee Organization (ICO) during the last week in September.

Preliminary estimates of the outlook for the 1979 Brazilian crop differ considerably. An early assessment by USDA of the August 1978 frost was that its affect on Brazil's potential crop of 24-26 million bags in 1979 would be relatively small compared with the severe damage done to the 1976 crop by the July 1975 frost. Subsequently, a special survey made by personnel of the Office of the U.S. Agricultural Attaché in Brazil indicated a crop outturn ranging from 18 million to 21 million bags, presuming

⁶Costa Rica, Guatemala, the Dominican Republic, Honduras, Mexico, Nicaragua, Peru, Venezuela.

weather and growing conditions remain favorable until the crop begins to be harvested in April 1979

On August 22 and 23, representatives of Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Venezuela, and the Ivory Coast (the latter as an observer invited by the Governments of Brazil and Colombia) convened in Bogotá. Their purpose was to exchange viewpoints on the world market situation for coffee and to unify criteria on the enforcement of the economic clauses of the International Coffee Agreement of 1976. At the meeting, the delegates agreed to recommend to other coffee producers the establishment of a unified position within the ICO in order to negotiate with the consumer-members, and a mechanism to stabilize prices in order to guarantee remunerative prices to producers and adequate supplies for consumers. In addition, the delegates agreed to intensify their efforts at the ICO's Promotion Committee in order to begin advertising campaigns that would maintain and increase coffee consumption.

It would appear, then, that Latin American producers as a group will look increasingly toward the ICO for solutions—especially in light of their general lack of success with recent unilateral actions. Within the ICO, the Latin American countries will put major emphasis on raising the current export quota trigger price from the 77-cents-per-pound level established in 1975 when the ICA was being negotiated. The Latin American producers' argument is based on their belief that higher trigger prices are needed if producers are to receive remunerative prices and at the same time make allowance for inflation.

Technical cooperation. Latin American countries have had a long history of regional technical cooperation. Research and development work on coffee-yield improvement and disease resistance have been in effect for some time at the Inter-American Institute of Agricultural Sciences (IAIAS) in Turrialba, Costa Rica. IAIAS research findings, as well as those of individual national research and development groups, are disseminated throughout the region. Coffee organizations in El Salvador, Costa Rica, and Brazil have been particularly active in introducing cultural innovations (e.g., shade management techniques, increased planting densities), which have spread to other countries in the region.

The capacity of Latin American coffee producers for group cooperation in the technical area has been illustrated by the reaction to the outbreak of coffee leaf rust (*Hemileia vastatrix*) in Nicaragua during November 1975. This disease, if it were allowed to spread, could seriously damage the coffee industry in Central America.

As a result of the outbreak, national and regional rust-control program activities were formulated and implemented. These activities have included intensive

research to detect the presence of the disease, tightening of border control measures in those countries adjacent to Nicaragua, and public seminars to instruct growers on identification of rust and interchange of technical information among the various countries. As Brazil has had rust since 1969, its technical know-how has been drawn on heavily by plant pathologists and agronomists from Mexico and Central America. The Organización Internacional Regional de Sanidad Agropecuaria (OIRSA) serves as the organization through which regional plans are coordinated.⁷ OIRSA also has been active in the regional effort to stop the coffee borer infestation, which is causing crop losses in Guatemala. Member states of OIRSA are largely responsible for the funding of the coffee borer, rust, and other OIRSA programs.

Reports from Nicaragua in September 1978 indicated that coffee leaf rust (*Roya*) had begun to spread somewhat beyond its original area of confinement. Reportedly, the rust is headed northward toward the more important coffee growing areas of the Managua Sierra. Specific information on this development is presently lacking, but the longer term consequences could be serious if the rust is not properly controlled. All neighboring producing countries in Central America as well as other Latin American countries have developed major control and treatment programs for coffee rust, should the disease spread beyond the Nicaraguan borders.

In addition, Bolivian authorities have declared a quarantine in the northeastern coffee-growing area of Riberalta, where coffee rust was discovered in August 1978. The movement of any agriculture product or seed near the Brazilian border has been indefinitely prohibited. The action was taken on the recommendation of a team of experts from the Andean Coffee Rust Control Committee in Bogotá.

Major Producers—South America

Brazil

Status of the Industry

Brazil is the leading producer and supplier of coffee to the world market. As of January 1979, production in 1978/79 was estimated at 20 million bags, compared with 10.8 million bags for Colombia (the world's second largest producer) and 13.1 million bags for all of Central America and Mexico.

⁷For a comprehensive review of the rust situation as it existed in mid-1977, see "Central America Fights Coffee Rust," *Foreign Agriculture*, June 27, 1977 (FAS/USDA).

Owing to Brazil's dominant role in the world coffee economy, the devastating effects of the 1975 coffee frost were felt throughout the coffee world as prices hit record highs. Now, partly because of the success of its coffee recovery program, world prices have fallen sharply from mid-April 1977 highs.

Coffee has played a dominant role in the economy of Brazil for decades. For many years coffee exports represented the premier foreign-exchange earner for the country. Because of its hegemony, the economic health of the country has been closely tied to world demand and price for coffee.

In recent years, Brazil has experienced rapid economic growth and export diversification so that prior to the 1975 frost the aggregate economic importance of coffee had been declining. Exports of commodities such as soybeans, sugar, iron ore, cocoa, tobacco, corn, and beef have been gaining in importance in recent years, but since the frost coffee again is Brazil's leading foreign-exchange earner. In 1976 and 1977, exports of green coffee reached record values of \$2.17 billion and \$2.30 billion, respectively.

However, the dramatic drop in prices caused a reduction of about one-fifth in the total value of coffee exports, as green coffee shipments for 1978 were valued at \$1.9 billion compared with \$2.3 billion in 1977.

The boom-bust cycle in coffee is nothing new to Brazil, though the market oscillations since July 1975 could prove to be the most volatile in history. Compounding the concerns over dropping coffee prices has been inflation, which has largely offset the benefits gained by greater exports. The increased price of imported petroleum that Brazil requires to run its expanding economy has spurred the rate of inflation.

Policies of fiscal restraint and energy conservation helped Brazil reduce inflation in 1977 to 39 percent, compared with 46 percent in 1976. However, to continue the fight against inflation and to pay the growing oil import bill, Brazil will continue to depend heavily on expanding output and exports from the agricultural sector. As a result, coffee earnings will remain one of the keys to the vitality of the economy.

Brazil: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Index of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	1,268	713	56.2	65
1965	1,596	707	44.3	80
1970	2,739	939	34.3	89
1975	8,670	855	9.9	100
1976	10,128	2,173	21.5	247
1977	12,112	2,299	19.0	411

Source: International Monetary Fund—International Financial Statistics, May 1979, Jan. 1979

Coffee Production

Trends in production. Coffee output in Brazil has undergone several periods of expansion and contraction as a result of weather, changing domestic policies, and international price movements. Prior to the frost of July 1975, Brazil appeared to be entering a new phase of coffee expansion. The 1974/75 crop of 27.5 million bags and the 1975/76 crop of 23 million bags were believed to have ended an 8-year cycle of low production, mostly because of the uprooting of 1.5 billion coffee trees or about 30 percent of the trees existing in 1961.

As a result of the coffee-tree eradication program during the 1960's, and influenced by low international prices plus large domestic stocks, Brazil's annual coffee production during the next 8 years (1966-73), was below its annual requirements for domestic consumption and exports. During those years Brazil drew on large Government-owned coffee stocks—estimated at about 60 million bags in the mid-sixties—to meet its annual supply requirements. The sharp reduction in the Government-owned coffee stocks multiplied the impact of the 1975 frost.

Brazil: Coffee Production, Selected Years, 1960/61-1978/79

Year (July-June)	Production	Planted area	Production as share of total world production
	<i>Mil. 60-kg bags</i>	<i>Million ha</i>	<i>Percent</i>
1960/61	29.0	4.91	44.2
1965/66	37.7	3.61	46.2
1970/71	9.7	2.57	16.7
1975/76	23.0	2.70	31.3
1976/77	9.3	2.34	15.2
1977/78	¹ 17.5	(²)	25.1
1978/79	³ 20.0	(²)	26.8

¹ Estimate. ² Unavailable. ³ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979.
Source: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

Coffee-tree numbers provide a basic indicator of impact of Government policies and weather on production. According to the Brazilian Coffee Institute (IBC), there were 2.76 billion coffee trees in Brazil in early 1974, covering an area of 2.84 million hectares. This compares with 4.33 billion trees on 3.61 million hectares in 1960/61, 3.20 billion trees

on 3.61 million hectares in 1965/66, and 2.23 billion trees on 2.57 million hectares in 1970/71. From 1969 through 1973 under the IBC's coffee tree renewal program, 730 million new trees were planted, while approximately 276 million old, uneconomical coffee trees were unrooted.

Brazil: Coffee Tree Numbers and Planted Area, by States, Selected Years, 1960/61-1976/77

State	1960/61	1965/66	1970/71	1975/76	1976/77
Goias					
Trees (Mil.)	1,155	750	687	838	746
Hectares (Thous.)	1,392	904	828	838	705
Mato Grosso					
Trees (Mil.)	1,287	995	816	876	665
Hectares (Thous.)	1,795	1,387	1,109	1,050	750
Paraná					
Trees (Mil.)	760	566	344	549	559
Hectares (Thous.)	741	552	296	399	422
São Paulo					
Trees (Mil.)	566	473	254	294	327
Hectares (Thous.)	424	354	204	213	244
Other States¹					
Trees (Mil.)	557	415	128	203	228
Hectares (Thous.)	558	415	128	200	219
Total					
Trees (Mil.)	4,325	3,199	2,228	2,761	2,564
Hectares (Thous.)	4,908	3,612	2,565	2,700	2,340
Trees per hectare	881	886	869	1,023	1,096

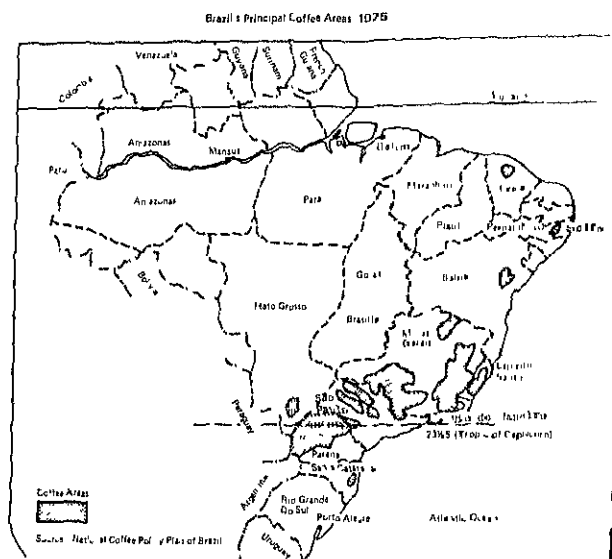
¹ States: Bahia, Ceara, Pernambuco, Mato Grosso. Source: Brazilian Coffee Institute.

In July 1975, there were about 2.76 billion trees covering 2.70 million hectares. Of the total tree population, 2.06 billion were adult trees (over 4 years old) and 701 million were new trees (less than 4 years old). A large proportion of new and old trees at the time of the frost were concentrated in the States of Paraná, Minas Gerais, Espírito Santo, and São Paulo. When the frost hit on July 16-18, about 1.5 billion trees in Paraná and São Paulo were affected. As a result of the frost, the number of trees in production declined by almost one-half. The first post-frost crop (1976/77) plummeted to only 9.3 million bags or only 40 percent of the previous year's crop. The freeze is estimated to have killed all the new trees in Paraná (about 112 million) and about 40 million in northern São Paulo State. The frost-damaged trees not killed or uprooted were deeply pruned or stumped to generate new growth.

Currently, Brazil's coffee production is trending toward pre-frost levels. Replacement of the trees killed by the frost, the maturation of young trees not killed in the frost, and the return to production of trees that were deeply pruned or stumped are all combining to expand Brazil's production potential.⁸ Replanting of new high-yielding varieties and the trend toward increased planting densities also improves yield per hectare potential. These factors taken together point to a production potential of 28 million-30 million bags by the early 1980's.

Another important trend is the gradual shift of production away from the recurrent frost-prone areas, especially in Paraná, where the area in coffee and the number of coffee trees was reduced by about 1 million hectares and 600,000 trees between 1960/61 and 1976/77. In the past, Paraná has accounted for up to 60 percent of annual output. With the shift in coffee production to frost-free areas and the planting of other crops, such as soybeans and wheat, Paraná now is expected to account for only about one-quarter of production. For the 1978/79 crop, the IBC estimates Paraná will produce about 25 percent of the total output, São Paulo 38 percent, Minas Gerais 24 percent, and the rest of the country 13 percent. In the future, Minas Gerais, which has more trees and has replanted in more productive ways, will probably assume leadership as the dominant producing State.

⁸ In addition to the frosts of 1975 and 1978, coffee frosts varying in severity have occurred during this century in 1902, 1918, 1942, 1943, 1953, 1955, 1962, 1963, 1966, 1967, 1969, and 1972.



Production policies and programs. Coffee policy is set by Brazil's National Monetary Council. Actual policy implementation and program formulation are provided by the Brazilian Coffee Institute. Since its creation in the early 1950's as an autonomous agency within the Ministry of Trade and Industry, the IBC has been involved in all aspects of production policy implementation. The IBC is chartered to assist in the maintenance of a balance between Brazil's coffee production, domestic consumption, and exports. IBC performs these functions through technical assistance programs, provisions for credit, and price-support policies.

In the area of technical assistance, the IBC provides growers with basic agricultural extension services. Credit assistance in the form of low interest loans is provided by the Bank of Brazil through programs sponsored by the IBC.

One of the IBC's primary functions is to ensure fair prices to growers and provide support, as needed, to the export price of coffee. This responsibility has necessitated the buying of coffee for temporary withdrawal from the market in order to support prices.

Such policies and programs have had a long history in Brazil. In contemporary times, Government coffee policy has had a tremendous impact on domestic production and on total world supply levels. During the 1960's, the IBC implemented an extensive coffee eradication program designed to reduce market-depressing surplus coffee production and free coffee land for substitute crops.

During the past 10 years the Government has conducted an extensive replanting program to give Brazil potentially higher production and increased protection against frost. The emphasis of the program has been on renovation, rather than expansion. The program was designed to replace trees in marginal areas and those lost to coffee-rust disease, as well as improve and intensify cultural practices. The financial resources of the program were distributed among five different projects: Production of high-yielding seedlings, planting of seedlings, pruning trees, application of soil correctives, and insect and disease control measures.

The key to the program's success was based on the need to provide coffee farmers with adequate credit for replanting as well as provide the incentive of potentially higher financial return. Individual producers and grower-cooperatives who received IBC technical and financial assistance were in turn required to comply with certain IBC requirements on the use of planting material, planting specifications, and prescribed fertilizer usage.

Credit programs sponsored by the IBC usually involve extending short-term loans to producers equivalent to about 80 percent of the IBC's existing minimum support price. These loans carried the attractive interest rate of 8 percent, compared with some commercial rates of 36 to 50 percent annually.

The scope of the IBC's planning skills were tested by the frost. To Brazil's credit, it was able to formulate, fund, and implement fairly rapidly an emergency plan for recovery from the effects of the frost. The recovery program was funded at the equivalent of \$1 billion and its main components included: Special credit for frost-damaged trees (\$317 million), replacement of trees financed under previous IBC programs (\$197 million), replacement of other trees (\$144 million), and special pruning and stumping programs (\$100 million).

Terms of the loans to growers were 7 percent per annum and duration ranged from 3 to 6 years. The program has proven to be very successful, and currently Brazil has 3.1 billion coffee trees under cultivation, an increase from the 2.76 billion trees at the time of the frost.

The principal policy tool employed by the Government to influence the internal market situation is the growers' support price. The National Monetary Council authorizes the support price for a given crop year. The IBC is required to buy that year's crop at the designated price, at the growers' option. During the price boom, the support price to growers was held down because substantial increases were believed to be inflationary, since they would involve greater Government spending.

Because of the stagnant export market that has developed in early 1978, growers began de-

demanding that the IBC raise the minimum coffee support price. On April 3, 1978, the IBC reacted to this pressure by raising the crop support price to Cr\$2,500 per bag (\$1.13 per pound), representing a doubling of the support price from the previous level of Cr\$1,250 per bag.

Brazil: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	Cents/lb	Cents/lb	Percent
1972	22.94	41.59	55.2
1973	32.69	51.28	63.7
1974	35.07	55.81	62.8
1975	50.22	48.36	103.8
1976	90.72	116.20	78.1
1977	116.25	195.89	59.3

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policies. The dominant share of Brazil's crop, which is largely grown without shade, is harvested by the strip method. The bulk of Brazil's coffee is prepared by the dry method, through depulping processes have been expanding considerably. After washing and grading, the coffee cherries are usually placed in large, open drying areas. In Paraná, however, because of the humid climate, almost all medium and large farms also use artificial driers.

Increasingly, producer cooperatives are becoming involved in a larger share of coffee processing and marketing activities. Coffee cooperatives clean, grade, store, and sell coffee for their members. In return, members pay the cooperative for warehousing and for other services. Cooperatives also are trending toward a larger role in export marketing. They sell members' coffee to brokers, exporters, or export directly. The IBC is also active in providing cooperatives with technical and financial assistance. Cooperatives are viewed by the IBC as a means for growers to reduce costs.

Millers also form part of the internal marketing process. They sell coffee to domestic roasters, the soluble industry, and exporters, and may also deliver coffee to brokers, who arrange sales on a commission basis. In recent years, the use of millers by producers has been declining, while growers' utilization of services offered by cooperatives has been increasing.

The IBC is an active participant in marketing. At various times, it buys coffee and subsequently sells from stocks either domestically or—as in recent years—on the world market. Currently, the IBC maintains a domestic warehousing network with a capacity of 58 million bags. It also maintains warehouses in Hong Kong, Trieste, Hamburg, and Beirut.

Domestic consumption trends and policies. Brazilians traditionally have been the largest consumers of coffee on a per capita basis in Latin America. The pervasiveness of coffee as the national beverage is illustrated by the use of the idiom “*café da manhã*” (morning coffee) as the standard expression for breakfast. However, in recent years there has been considerable fluctuation in annual consumption figures owing to changes in supply and stock levels.

During periods of high stock levels, the IBC has promoted increased domestic consumption. Until the early 1970's, the IBC was the sole supplier of green coffee—drawn from its stocks—to domestic roasters and the soluble coffee industry. IBC coffee was sold to the domestic coffee industry at subsidized prices (usually about 50 percent under the prevailing world market price). Laws prohibiting adulteration have also encouraged high consumption levels.

After the 1975 frost, IBC announced that the Government would discontinue indirectly subsidizing the price of domestic consumption by no longer

supplying domestic roasters with coffee from its stocks at reduced prices. The IBC's primary policy objective was aimed at preventing coffee stocks from falling below critical levels. However, in order to maintain a price ceiling to the domestic consumer of Cr\$44 per kilogram of ground roasted coffee (equivalent to \$1.50-\$1.86 per pound, fluctuating with the cruzeiro devaluations between July 1976 and April 1977), the IBC continued to supply domestic roasters partially from its stocks at below-market prices.

As the tight supply situation has slackened, the IBC has returned to furnishing Brazilian roasters all their requirements of green coffee. At the same time, the IBC has prohibited the export of lower quality coffees. This coffee can only be sold to domestic roasters and soluble coffee manufacturers. The purpose of this policy is to assure green coffee supplies to roasters and the soluble industry at about the price they are paying for coffee from IBC stocks.

With the improved domestic supply situation, consumption in 1978/79 is expected to be about 8 million bags, up 7 and 14 percent, respectively, from levels of the 2 previous years. However, roasted coffee prices remain relatively high for the average Brazilian consumer, and the per capita consumption continues to lag below pre-frost levels. The IBC is currently encouraging roasters to reduce prices in order to stimulate consumption.

Brazil: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (July-June)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	7,000	24.1	71.94	5.8
1965/66	7,500	19.9	82.93	5.4
1970/71	8,250	84.6	95.17	5.2
1975/76	8,000	34.8	109.18	4.4
1976/77	7,000	75.3	112.24	3.7
1977/78	7,500	42.9	115.30	3.9
1978/79 ¹	8,000	40.0	118.36	4.1

¹ Forecast. Source: U.S. Agricultural Attaché. Population data based on UN monthly Bulletin of Statistics (midyear estimate) with FAS estimate in forecast year.

Trends in export marketing and policies. Brazil is the single largest supplier of coffee to the international market. In volume terms, the country's coffee exports averaged 17.2 million bags annually (calendar year) between 1965 and 1970, and 16.5 million bags between 1971 and 1976. In 1973, Brazil's earnings from the export of 19.8 million bags reached a record

at that time of \$1.34 billion (including \$100 million from soluble coffee exports). Much smaller volumes of coffee exports were realized during 1974 and 1975, estimated by the IBC at 13.3 million and 14.6 million bags, respectively.

As a consequence of the frost-effected low 1976/77 coffee crop, the IBC announced several

times during 1976 that efforts would be made to hold exports to 12 million bags during the 1976/77 marketing year. Actual exports reached 15.6 million bags in 1976 and 10.1 million bags in 1977 (17.4 million bags for the 1976/77 marketing year), representing a total of \$4.47 billion in coffee export earnings for the 2 years. For 1978, Brazilian exports totaled 12.5 million (of which 2.2 million bags were soluble coffee) as demand improved somewhat from the 1977 level.

Over the longer term, Brazil hopes to maintain

exports at a level equivalent to about one-third of the world requirements, which normally have totaled 57-58 million bags annually. IBC believes Brazil will be able to market annually about 26 million bags, including 7-8 million bags for domestic consumption, during the next 5 years without major difficulty. To guarantee this marketing goal, Brazil plans to have 3 billion coffee trees (including plantings of Robusta coffee in the Amazon region and the State of Bahia) producing 28 million bags by the early 1980s.

Brazil: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	16,819	55.8	37.1	7.1
1965	13,498	44.7	46.9	8.4
1970	17,085	31.5	55.1	13.4
1975	14,604	29.2	61.6	9.2
1976	15,631	29.7	55.9	14.4
1977	10,118	26.4	62.1	11.5
1978 ¹	12,496	(²)	(²)	(²)

¹ Preliminary. ² Unavailable. Source: International Coffee Organization, Pan American Coffee Bureau, Instituto Brasileiro de Café, G. Gordon Paton, Jr., & Co. Inc.

An increasingly larger share of Brazilian coffee exports have been going to Europe. Italy, France, and West Germany are the most important of the traditional markets. Eastern Europe represents a growing market, accounting for 12.3 percent of total exports in 1975 compared with 5.1 percent in 1970.

Soluble exports continue to go largely to the United States, while European soluble importers depend more heavily on African Robustas. Soluble exports have expanded over the past decade. The soluble industry in Brazil generally buys lower grade coffee—including “grinders” (broken beans), which by law cannot be exported—and processes this into soluble for export.

The United States remains heavily dependent on Brazilian green and soluble coffee imports, though the Brazilian share of total green coffee imports has declined significantly in recent years. Soluble imports from Brazil, in contrast, have remained on a fairly steady level. Analysts believe that Brazilian soluble is a substitute for African Robustas and not Brazilian green coffees.

Despite the volume decline in the U.S. market, Brazil registered value records for both green and soluble shipments totaling \$820.6 million (\$196 million for soluble) in 1977. U.S. green coffee imports from Brazil totaled 2.7 million bags valued at \$645.0 million in 1978 while soluble imports totaled 1.0 million bags valued at \$181.5 million.

U.S. Imports of Green Coffee from Brazil, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	9,252	398.9	41.9
1965	5,744	303.4	26.9
1970	4,717	295.8	23.9
1975	3,748	337.3	18.5
1976	3,092	496.9	15.6
1977	2,453	624.6	16.6
1978	2,694	645.0	14.9

Source: U.S. Department of Commerce.

In broadest terms, the aims of Brazil's coffee marketing policies have been to maximize foreign-exchange earnings, provide sufficient supplies for the domestic market, and insure remunerative prices to growers. The Government uses price as its primary mechanism for controlling the flow of coffee into the international market. Shipments can be increased or decreased through changing the level of the minimum export registration prices and/or the contribution quota (export tax).

Export incentives or disincentives revolve around the minimum export price. In accordance with the grade and cup quality of the coffee to be exported, the IBC fixes the minimum export price, subject to the approval of the National Monetary Council. Sales below the fixed-price level by private exporting firms, coffee growers' cooperatives, and the IBC itself are prohibited. The minimum price has fluctuated significantly over the past 3 years. At the time of the 1975 frost, the minimum export registration price was 50 U.S. cents per pound. During the height of the subsequent price boom it rose to \$3.20 per pound.

At the start of the 1977/78 (July-June) coffee marketing year, the minimum export price was still \$3.20 per pound, despite the decline in international prices since April 1977. IBC's reasoning at the time was based on the assumption that inventories of most importing countries were nearly depleted and that importers would resume their purchases of Brazilian coffee since Brazil was the only supplier with significant quantities of coffee available for the world market prior to entry of the new-crop coffee in Central America and Colombia (appendix IX). Brazil did not alter its minimum export price for green coffee until December 2, 1977, when it reduced the minimum price to \$2.10 per pound.

During this period, however, the IBC negotiated special discounts with foreign coffee roasters. The Brazilian government permits such exports at prices below the minimum registration price within certain prescribed limits. This mechanism gives greater flexibility to the price system, since the rigidity of minimum registration prices makes it difficult to adapt prices to the normal fluctuations of international coffee quotations. In recent special discounts or rebates, the IBC would provide one bag of coffee at a price lower than the price for every two bags sold to the purchaser at the regular market price. Brazil has used this discount policy in the past as well, especially with large contract buyers.

As international prices have continued to fall, Brazil successively reduced its minimum export price to as low as \$1.50 on June 30, 1978. On August 26, the minimum export price was increased to \$1.60 per pound. Since the IBC has been selling coffee for \$1.60 per pound and lower in special discount deals,

the revised official price has been moving closer to actual market prices.

The other important export-policy instrument is the contribution quota or export tax. All coffee destined for export is assessed this tax by the IBC. The contribution quota (*confisco cambial*) provides revenues for the Coffee Fund account at the Bank of Brazil to be used only for programs and activities that benefit the coffee industry.

The value of the contribution quota, like the minimum export price, has undergone considerable fluctuation over the past 3 years. At the time of the frost, the export tax was \$20.86 per 60-kilogram bag, about 32 percent of the minimum export price of \$66 per bag (50 cents per pound). By April 1977, at the height of the boom, the export tax had risen to \$134 per bag. At that time the cost of exporting a 60-kilogram bag of coffee was \$436, or \$3.29 per pound, (\$300 paid to the producer plus \$2.00 for transportation, processing, and bagging, plus the \$134 export tax). Each bag was then worth \$488 (\$3.69 per lb.), ex-dock New York. The export tax finally reached a high of \$220 per bag, but with the protracted decline in international prices, the IBC lowered the tax to \$120 per bag in December 1977 and subsequently to \$70 per bag as of June 3, 1978. On October 9, 1978, the IBC reversed this trend and revised the contribution quota to \$80 per bag. This action was taken in view of the firming of the coffee futures market in the wake of the August 1978 frost.

Colombia

Status of the Industry

Colombia is the world's second ranking producer and exporter of coffee. The mild, rich coffees it produces are regarded among the world's best, and normally receive premium prices. Coffee is the biggest industry in Colombia. Its cultivation, processing, and marketing contribute more than 25 percent of the gross agricultural product and 4 percent of total gross domestic product (GDP). Nearly 2 million people—10 percent of the total population—are dependent on coffee as a principal source of income.

Coffee is crucial in the overall development and well-being of the economy, primarily because it is the major source of foreign-exchange earnings. During 1970-77, coffee's share of total export earnings ranged from 44 to 62 percent annually, with earnings reaching almost \$1 billion in 1976 and \$1.5 billion in 1977. This sudden influx of coffee dollars, however, contributed to a sharp rise in the rate of inflation,

estimated at 30 percent for 1977. To maintain the nation's economy in a reasonable state of equilibrium, the Government reacted to excess liquidity in the economy by siphoning off some of the coffee dollars through increasing taxes.

Despite the high inflation rate, Colombia's predominantly agrarian-based economy is one of Latin America's strongest in terms of growth, with a per capita GDP of \$586 in 1976. Growth in the agricultural sector averaged about 5 percent annually from 1970 through 1976. In addition to coffee, Colombia's main export commodities are petroleum, cotton, and sugar.

In recent years, Colombia has sought to decrease its dependence on coffee, whose exports accounted for over 70 percent of total annual export earnings until the mid-1960's. While the policy of export diversification has been very successful and exports other than coffee are likely to continue to expand, Colombia's economy remains highly vulnerable to conditions in the coffee market. As a result, economic development will continue to be closely geared to coffee export earnings, which provide a substantial proportion of the capital to buy needed imports as well as fund domestic investment projects.

Colombia: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total	Index of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	464.6	332.2	71.5	55
1965	539.1	343.9	63.8	59
1970	735.6	466.9	63.5	69
1975	1,465.0	671.8	45.9	100
1976	1,745.2	977.4	56.0	192
1977	2,432.7	1,525.7	62.8	296

Source. International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends in production. Colombia has increased its productive capacity significantly in recent years. The country's 1977/78 crop is estimated at a record 10.3 million bags and the forecast for 1978/79 calls for the total outturn to reach 10.8 million bags. These are the first 10-million-bag crops in Colombia's history and represent Colombia's second and third successive record coffee crops. These crops have been achieved by generally favorable weather in producing areas, better farm management practices, and greater use of high-yielding varieties. An increase in harvested area has also been a factor—it has jumped from 840,000 hectares in 1974/75 to an estimated 1.1 million hectares in 1977/78. In addition, high world prices during the past 3 years have made it profitable to rehabilitate older trees that normally would have been taken out of production.

Coffee growers apparently are reinvesting earnings from the recent coffee bonanza at fairly high rates. Part of the reason for this move is that Colombian coffee growers have few crop options available to them. Most of the annual production is grown by smallholders on steep mountainsides at between 1,000 and 1,900 meters—land not adaptable for other crops. Nearly two-thirds of the producers have holdings of less than 11 hectares; these smallholders, normally account for about 60 percent of annual output. Colombia currently has more than 300,000 coffee farms, which cover slightly over 25 percent of the total land under cultivation.

Despite the predominance of large numbers of small producers, the efficiency of aggregate national production has gradually been trending upwards. At present, yields are over 9 bags per hectare, but modified planting techniques with new varieties of trees could raise yields considerably in the near future.

Colombia: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60-kg bags/ha</i>	<i>Percent</i>
1960/61	7,700	10.4	11.7
1965/66	8,200	11.3	10.1
1970/71	7,800	9.8	13.4
1975/76	8,500	8.5	11.6
1976/77	9,300	9.3	15.3
1977/78	10,346	9.6	14.8
1978/79	¹ 10,800	9.9	14.5

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Sources: U.S. Agricultural Attaché and Foreign Agricultural Service coffee circulars.

Production policies and programs. The Government's coffee production policies and programs are coordinated by the National Federation of Coffee Growers (FEDERACAFE), which came into being in 1927 essentially as a private organization with the objective of representing at the national level the country's vital export industry and defending the interests of the vast number of small coffee producers. Gradually it has become more and more of a quasi-governmental agency for organizing and controlling the entire coffee industry. Its activities are governed by an 11-member board of directors, with six members representing the coffee growers and five representing various Government agencies.

One of the most important functions performed by FEDERACAFE is that of guaranteeing the coffee grower a support price for his coffee. This price, based on the external coffee price, guarantees an acceptable economic return to growers and seeks to avoid drastic fluctuations in their purchasing power. The current domestic support price for coffee is about 7,300 pesos per 125 kilograms (about \$1.50 per kg). Of this support price, 6,800 pesos are paid by FEDERACAFE to growers in cash and 500 pesos go into the National Coffee Savings Fund.

FEDERACAFE is responsible for the administration of the National Savings Coffee Fund, which is used to finance purchases and storage of coffee obtained from coffee growers. In addition to the grower contribution, the National Coffee Savings Fund is financed by export taxes, export sales made directly by FEDERACAFE, and sales to private porters.

In coffee-producing regions, FEDERACAFE has constructed access roads, built water supply systems, constructed schools, brought in electricity, and established rural health care centers—all to raise the standard of living of coffee growers and their families.

FEDERACAFE has implemented programs to improve coffee productivity by conducting research and by funding a large agricultural extension and technical assistance program. Since the bulk of Colombia's coffee is produced by smallholders with limited economic resources, the success of the coffee extension services to introduce improved production technology has been dependent on adequate credit facilities. A coordinated program of supervised credit has been undertaken by FEDERACAFE with assistance from the Office of Agricultural Credit, the Ministry of Industry and Minerals, and the Coffee Bank of Colombia.

Production improvement programs are currently emphasizing rehabilitation of existing coffee plantings. Renovation includes the stumping or sharp pruning of marginally productive trees and interplanting of new high-yielding varieties. Renovated plantings are better adapted for the use of modern disease and pest control techniques.

As of January 1977, 2.6 billion pesos were available for land improvement loans. Under its renovation program, Colombia hopes to complete renovation of about 600,000 hectares of older coffee area, or about 60 percent of its total coffee area of roughly 1.1 million hectares.

Colombia is also planting considerable new areas to unshaded or sun-grown coffee. The bulk of Colombia's output is grown under shaded conditions, which depend largely on organic fertilizers. In contrast, sun-grown coffee, which now constitutes less than 20 percent of the total, requires considerable inputs of chemical fertilizers, although the quality is generally lower than that obtained from traditional shaded plantings. The payoff of sun-grown coffee is faster maturing beans and generally higher yields per hectare.

During 1977 and 1978, nearly 30,000 additional hectares were planted to coffee, mainly the high-yielding Caturra variety. Newly authorized funds also are being used to improve processing facilities as well as for the purchase of fertilizers and pesticides. The attractive feature of these new credit opportunities is that producers are given loans at interest rates of from 12 to 18 percent, compared with commercial rates of about 27-30 percent.

In recent years, FEDERACAFE has generally maintained a conservative stand toward increased coffee production, stressing that supply should not outpace world demand. In addition, FEDERACAFE until recently has pointedly discouraged increases in planted area, favoring instead yield-improvement programs on existing area. With the recurring freezes in Brazil, Colombia has shifted its production policies somewhat to capture a greater share of the international coffee market. At a Coffee Producer's Congress, for example, a production goal of 11.4 million bags by 1980 was established. With good growing conditions, increased use of yield improvement inputs, and modest expansion in planted area, the goal does not appear overly optimistic.

Colombia: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972 . . .	30.88	49.84	62.0
1973 . . .	36.90	66.79	55.2
1974 . . .	36.93	68.59	53.8
1975 . . .	39.66	68.83	57.6
1976 . . .	71.77	123.37	58.2
1977 . . .	88.01	221.64	39.7

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policy. In Colombia, around 90 percent of the country's coffee producers pulp and ferment their crop, thus selling most of it as dried parchment. Other producers sell their cherry coffee to neighbors who have pulperies, and pay a commission for preparation. In some cases, farmers with limited production do their own pulping but sell the wet, unfermented beans to local dealers who bulk their purchases and undertake the fermentation and drying processes. On very large farms, the producer may also be an exporter and will hull, grade, and bag the coffee for export. Producers

who are members of cooperatives normally bring their coffee in the cherry form to the cooperative's central pulperies.

The primary marketing of coffee is usually handled in the parchment form. Individual farmers or cooperatives bring their coffee to the nearest town and sell it to either representatives of private exporters, agents of FEDERACAFE, or to intermediaries who subsequently sell to exporters or FEDERACAFE.

There has been a trend toward the formation of coffee cooperatives in recent years to aid individual farmers with the processing and marketing of their crop. Cooperative societies for coffee were initiated in 1959 in the Department of Caldes at Pereira. Members buy shares in the cooperative but the bulk of financing generally comes from the FEDERACAFE, which supplies the working capital required for marketing, while the National Coffee Bank normally provides funds for loans.

Currently there are about 44 producer cooperatives in Colombia, which account for most of the coffee processing. Generally, a cooperative sells to FEDERACAFE, except when prices paid by exporters are higher than the support price, and then it sells directly to exporters. FEDERACAFE's minimum support price functions effectively as a floor price. When this price is lower than the exporters' price, FEDERACAFE is offered very little. However, when its minimum prices are higher than exporters are prepared to pay, FEDERACAFE accumulates stocks.

Domestic consumption trends and policies. By law, FEDERACAFE has a monopoly on sales to the many small, local roasters for the domestic market. Its policy has been to improve the quality of domestically available coffee in order to increase domestic consumption. FEDERACAFE has undertaken this policy by introducing certain amounts of high-quality Excelso coffees from its stocks and mixing them with the more commonly available, poorer quality Pasilla and unwashed coffees. The mixture is then sold at fixed prices to roasters.

Since the early 1960's, FEDERACAFE has carried out an active promotion campaign to increase domestic coffee consumption. This effort is assisted by existing legislation, which prohibits the sale in Colombia of coffee products that do not contain 100 percent coffee. Coffee, however, traditionally has faced competition in the domestic market from chocolate as the standard breakfast drink. The campaign to increase consumption is, of course, aided when cacao prices are high relative to coffee prices. All in all, the campaign has been highly successful, as apparent domestic coffee consumption has increased by 50 percent since the early 1960's.

The general policy of subsidizing coffee on the domestic market recently has been under attack by coffee producers. Producers have called on the Government to eliminate the domestic subsidy because it could cause a financial drain on the National Coffee Fund as well as provide an incentive for contraband sales to Venezuela, Panama, and Ecuador. Through

most of 1978, FEDERACAFE was selling semi-processed coffee to domestic roasters at 16 pesos (about 42 cents) per kilogram, which in turn is sold processed to the public at 29 pesos per kilogram. The cost of production of a kilogram of semiprocessed coffee is reported at 71.72 pesos, making the subsidy 55.72 pesos or 78 percent of the production cost.

Colombia: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>kg</i>
1960/61	700	14.2	15.91	2.6
1965/66	1,200	14.6	18.47	3.9
1970/71	1,410	18.1	21.09	4.0
1975/76	1,400	16.5	24.33	3.3
1976/77	1,400	15.1	25.05	3.5
1977/78	1,500	14.5	25.80	3.6
1978/79 ¹	1,550	15.3	26.55	3.5

¹ Forecast. Sources: Consumption data, U.S. Agricultural Attaché; Population data based on UN Monthly Bulletin of Statistics (midyear estimate); FAS estimate in forecast year.

Trends in export marketing and policies. The volume of coffee exports has shown considerable variability in recent years. ICO reports record 1978 exports of 9.0 million bags, up 70 percent from the 1977 level. Since there has been a significant gap between the domestic and the export price, contraband exports have been a recurring problem. For the 1976/77 marketing year, contraband was estimated at 500,000 bags, while legal exports were estimated at 5.3 million bags. Despite the contraband, coffee earnings were up as a result of high world market prices from \$867.2 million in 1975/76 to \$1.5 billion in 1976/77. Of the 8 to 9 million bags forecast for export during 1978/79, about 500,000 bags are likely

to be exported illegally. With declining world market prices, however, there are few incentives for smuggling.

Despite improved export volume, stocks have reached high levels as production expands. In May 1978, stocks were estimated at a record 6.5 million bags. It would appear that the Government may have to develop a more aggressive export policy to reduce these high stocks.

Some market advisors have suggested that the Government utilize the futures market for expanding coffee exports. Colombia sells strictly on a 15-day delivery, f.o.b. basis. Sales are by description only, for there is only one export grade—Excelso.

Colombia: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	5,938	73.3	23.8	2.9
1965	5,635	53.9	42.5	3.6
1970	6,509	39.1	56.3	4.6
1975	8,175	38.8	55.7	5.5
1976	6,290	38.0	55.5	6.5
1977	5,323	32.9	59.9	7.2
1978 ¹	9,034	(²)	(²)	(²)

¹ Preliminary. ² Not available. Sources: International Coffee Organization, Pan American Coffee Bureau, FEDERACAFE, G. Gordon Paton, Jr., & Co., Inc.

The United States and Europe are the dominant export markets. In recent years, there has been a concentrated effort on the part of FEDERACAFE to expand exports to Europe. FEDERACAFE handles most of the exports to Europe, and the private trade most of the exports to the United States. European purchases have trended up in recent years, while U.S. purchases have declined, but the United States remains the largest single buyer of Colombian coffee.

In addition to the trend toward increased consumption in Europe, sales have benefited from barter deals (e.g., French breeding cattle for Colombian coffee) as well as aggressive market promotion. Colombia's export diversification strategy is also reflected in these trends. In essence, this strategy has called for a concentration in Europe, since that

market held the greatest growth potential. In contrast, U.S. buyers in large part represented a captive market, since only Colombia was capable of supplying large amounts of Mild coffees.

Japan and the United States are the major markets for exports of soluble coffee. Recently, Japanese trade representatives indicated that they would lower their import duty on soluble coffee from 20 percent to 17.5 percent ad valorem, which should help Colombia expand its soluble exports to Japan. The Japanese market currently accounts for about 40 percent of total soluble exports and the United States about 45 percent. Green coffee exports to Japan accounted for 4.2 percent of total green exports in 1977, compared with 1.9 percent in 1970 and 0.7 percent in 1960.

U.S. Imports of Green Coffee from Colombia, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	1,000 60-kg bags	Mil. dol.	Percent
1960	4,259	244.5	19.3
1965	3,324	199.6	15.6
1970	2,497	176.7	12.7
1975	3,400	307.6	16.8
1976	2,688	379.5	13.6
1977	1,951	517.0	13.2
1978 ..	2,808	680.5	15.5

Source: U.S. Department of Commerce.

Colombia's external marketing policy can be examined in the light of its sales and export pricing systems. As noted above, Colombia uses centralized marketing provided by FEDERACAFE as well as private export firms. Consignment sales are used only by FEDERACAFE.

The export pricing system is based on a fairly complex tax structure. An extremely important part of the system is the *reintegro*, or repatriation requirement. This provision stipulates that all coffee exporters, including FEDERACAFE, must remit to the National Bank a certain sum in U.S. dollars for each bag of coffee exported. The National Bank gives pesos in return for the dollars at the official exchange price. The *reintegro* is related to world market prices, and changes are made from time to time to reflect these prices.

In April 1977, the *reintegro* was \$477 per 70-kilogram bag exported. With the downturn in world market prices, the Government has recently reduced the *reintegro* requirement to \$259 per 70-kilogram bag. In effect, the *reintegro* acts as a minimum export price.

In addition to the *reintegro*, the exporter must pay a retention tax to FEDERACAFE. The retention tax is equivalent to 80 percent of the value of each 70-kilogram bag exported. A minimum of 30 percent of the tax has to be paid in physical coffee and the balance in Colombian pesos. Part of the revenues from the retention tax are used by FEDERACAFE for development projects, and the rest is held by the National Bank for investment and social development activities in the coffee-growing areas.

There is also an export tax on coffee of 17 percent. The retention mechanism and the export tax add up to about a 60-percent tax rate on coffee exports. However, the Government views the retention tax as an internal device for siphoning off potential excess profits to exporters and allocating total coffee earnings more equitably within the total economy. The retention tax also serves to hold internal prices for coffee well below world levels.

Colombia's buildup of stocks and expectation of a record 10.8-million-bag crop, prompted announcement in May 1978 of an aggressive 3-year coffee export promotion program. Under the program,

foreign roasters selling to the out-of-home market will receive a special allowance if they include and/or increase the percentage of Colombian coffees in their blends. The allowance is as follows: 51 percent minimum Colombian blend will receive 5 cents per pound; 75 percent minimum blend will receive 7.5 cents per pound, and 100 percent Colombian coffee will receive 10 cents per pound. The allowance will be paid either in money or in coffee, according to the provisions of each contract. This promotion program illustrates the aggressiveness and inventiveness of Colombian marketing policy.

Ecuador

Status of the Industry

Ecuador is a significant producer and exporter of both Arabica and Robusta coffees. Coffee is one of the most important of the country's export commod-

ities as well as providing considerable rural employment. In recent years, coffee export earnings usually have been second only to bananas in the total value of agricultural exports. Agriculture is the mainstay of the economy, contributing over one-half of the aggregate export earnings and employing over one-half of the labor force. The coffee sector, which is dominated by smallholdings averaging less than 3 hectares, employs about 20-25 percent of the rural population and about 15 percent of the country's economically active population.

Revenues from petroleum in the past few years have caused a spurt in economic growth. The momentum of Ecuador's growth trend, generated largely by the impact of petroleum revenues since 1973, continued in 1977 with a GDP growth rate of 7.4 percent. Rapid economic growth, however, has resulted in increased import demand for consumer goods, which boosted inflation to 12.3 percent. In 1977, trade earnings from petroleum actually declined, and those of agricultural exports exceeded petroleum for the first time since 1973. Coffee exports contributed \$157 million to the trade balance and in part made up for the drop in the value of petroleum exports.

Ecuador: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit values for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	146.0	21.9	15.0	68
1965	164.1	37.3	22.7	78
1970	221.1	50.5	22.8	93
1975	910.3	64.3	7.1	100
1976	1,162.8	205.3	17.6	219
1977	1,228.3	156.6	12.7	311

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. Coffee production has trended upward in recent years, partly as a result of improvements in crop management, increased use of fertilizer, and area expansion. The outlook for 1978/79 is for a record 1.5-million-bag crop. If achieved, it will represent the third successive record crop.

Coffee is grown mostly on small family holdings, and on many holdings coffee trees are mixed with cocoa and bananas. Coffee is cultivated both in the lowlands and on the mountain slopes. The plantations at Cumbaya (altitude, 2,400 meters) are probably the highest Arabica plantings in the world.

As a result of the wide range of elevations in which Ecuadorian coffee is produced, the country is in the unique position of producing significant amounts of both Arabica and Robusta varieties. There has been a significant uptrend in Robusta plantings in the lowlands in recent years, resulting in a substantial increase in production. In 1976/77, for example, Robusta accounted for 333,430 bags—24 percent—of the 1.4-million-bag crop. This compares with a Robusta production of only 29,000 bags in 1966/67 and 10,000 bags in 1960/61.

During the past decade, coffee area has expanded significantly. In 1966/67, area under coffee was estimated at 145,000 hectares. In 1976/77 the total

harvested area was 247,000 hectares, an increase of 70 percent during the decade--the largest area expansion of coffee in Latin America. (The area figures are approximations, since coffee is typically grown in small plots and the trees are usually intermingled among other tree crops and forest.)

Total area harvested in 1978/79 is forecast at 250,000 hectares, up 2 percent from 1976/77's area and 8 percent from 1974/75's. Because of the downturn in prices since mid-1977 and general uncertainty concerning foreign demand, the incentive for further expansion appears to be leveling off.

Most of the new plantings during the past few years have been of the Robusta variety, because yields obtained from this variety are generally higher than Arabica and prices for Robusta have been equal to or compared favorably with those for Arabica. (Ecuador traditionally has produced a relatively poor quality and, therefore, lower priced Arabica.) Most of these new plantings of the Robusta variety are on the eastern slopes of the Andes and form part of the Government's current developmental efforts in that region of the country.

Ecuador: Coffee Production, Selected Years, 1960/61-1978/79

Year (Apr.-Mar.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 kg/ha</i>	<i>Percent</i>
1960/61.....	750	6.5	1.1
1965/66.....	1,035	7.1	1.3
1970/71.....	1,300	6.1	2.2
1975/76.....	1,191	5.2	1.6
1976/77.....	1,389	5.6	2.3
1977/78.....	1,474	5.9	2.2
1978/79 ¹	1,483	5.9	2.0

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Source: U.S. Agricultural Attache, Foreign Agricultural Service coffee circulars.

Production policies and programs. Production policies and programs largely come under the direction of the National Coffee Program Office (PNC), a unit of the Ministry of Agriculture. The Coffee Program Office collaborates closely with the National Coffee Growers' Cooperative Association (FECECAFE) and the National Development Bank. PNC implements policies and programs through three departments: Technical and marketing, extension services, and diversification. The organization maintains agronomists in the coffee areas to advise farmers on modern production methods and techniques for renovation and rehabilitation of old plantations. Its current renovation program consists, in part, of providing producers with high-yielding seedlings. The main seedling variety distributed under the program is the Caturra type of Arabica, which is well-adapted to the principal growing area of Manabi Province.

In other areas, emphasis has been on *Canephora* variety of Robusta coffee. PNC also conducts an extensive rehabilitation program, in which technicians demonstrate how to prune, shade, fertilize, and control disease and insect problems. Working with the National Institute for Agricultural Research (INIAP),

the coffee program conducts plant research and is utilizing demonstration plots to show farmers good cultural practices and how higher yields can be obtained from improved varieties.

The National Development Bank is the Government entity responsible for promoting agricultural development as a whole through loans to the agricultural sector. Short-term loan facilities are available to coffee farmers through the Bank. Until recently there were plans to establish a Coffee Bank similar to that in Colombia. Rather than establish this new institution, the National Development Bank will open new lines of credit for coffee growers only.

Coffee grower prices in Ecuador continue to fluctuate according to world prices. The Government does not fix minimum grower prices. However, with the recent implementation of programs designed to strengthen growers' bargaining position with middlemen, it appears that producers are receiving a higher percentage of the f.o.b value for their output. Still, many growers are tied to their intermediaries and may not, for that reason, receive the best prices possible.

Ecuador: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	Cents/lb	Cents/lb	Percent
1972	16.76	36.93	45.3
1973	29.79	44.24	67.3
1974	35.26	52.42	67.3
1975	32.46	47.46	68.4
1976	77.74	102.39	75.9
1977	122.12	147.52	82.8

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policy. Over half of Ecuador's coffee is still processed by the dry method, though in recent years efforts have been made to increase the volume of washed coffee. Internal marketing of coffee from the producer level to the export level has been generally free from restrictions. There is no minimum internal selling price, and the Government has not intervened in the internal marketing process. Most of the crop is normally bought through middlemen. In the past, because of a lack of available Government credit facilities, producers would invariably turn to these middlemen for loans at very high interest rates.

This situation has been corrected somewhat by the increased availability of credit facilities through the National Development Bank. In an effort to give the producer more protection from or bargaining power with middlemen in the internal marketing of coffee, the National Development Bank is constructing a series of coffee cleaning and storage complexes. These complexes are to be managed by either the PNC or by producer cooperatives.

Internal marketing also has been handicapped by inadequate transportation facilities linking producing

areas with markets. Road construction projects have improved the situation somewhat in recent years; however, many interior routes of coffee movement remain impassable during the rainy season. The construction of storage centers in producing areas should ameliorate this problem.

Another indication that the Government is becoming more active in protecting the interests of producers is the recent initiation by PNC of coffee price reports on the radio. This information service will enable growers to become better aware of the current market situation, and thereby help them negotiate more equitable prices for their coffee.

Domestic consumption trends and policies. Domestic utilization's share of total output has trended downward as output has increased. In addition, total consumption has not kept pace with population growth, resulting in a decline in per capita intake. Prices in the domestic market are not insulated from those in the international market, and this may account for some of the recent decline in per capita consumption. In contrast to the diluted coffees drunk by many Latins, Ecuadorans drink a highly concentrated coffee beverage popularly referred to as *tinto*. The estimate of domestic consumption for 1978/79 is the equivalent of 185,000 bags of green coffee.

Ecuador: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	1,000 60-kg bags	Percent	Millions	Kg
1960/61	250	33.3	4.50	3.3
1965/66	190	18.4	5.22	2.2
1970/71	220	16.9	6.17	2.1
1975/76	165	13.9	7.31	1.4
1976/77	170	12.2	7.56	1.4
1977/78	180	12.2	7.81	1.4
1978/79 ¹	185	12.5	8.06	1.4

¹ Forecast. Source: Consumption data, U.S. Agricultural Attaché. Population data based on UN monthly Bulletin of Statistics (midyear estimate), with FAS estimate in forecast year.

Trends in export marketing and policies. Coffee export volume has risen significantly since the late 1960's as output has increased. Ecuador has an added advantage in the marketplace by being able to supply both Robustas and Arabicas to buyers. For 1977/78, exports were about 1.37 million bags, of which about 65 percent was Arabicas. Of the total Arabicas, 37.6 percent was in natural form and 27.3 percent washed. Both the percentage of washed Arabica and Robusta coffees exports have grown in recent years.

The quantity of processed coffee exports, while relatively small compared with green coffee exports, also has increased in recent years. This trend is likely to be heightened by the added production from three new processing plants that came on stream in 1978. In addition, the country's only manufacturer and exporter of soluble coffees is presently constructing a new freeze-dry plant, which is to be the largest and most modern facility of its kind in South America.

Ecuador: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	522	61.1	37.5	1.4
1965	764	67.2	31.8	1.0
1970	879	68.0	30.2	1.8
1975	1,072	61.1	27.4	11.5
1976 ¹	1,531	50.1	14.0	35.9
1977 ¹	923	54.7	26.7	18.6
1978 ²	1,637	(³)	(³)	(³)

¹ Destination percentages based on import data, as export data by destination are unavailable. ² Preliminary. Comparable 1977 figures in parentheses. ³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Banco Central del Ecuador.

The United States is the major single market for Ecuador's Arabica and Robusta exports. Other important markets include West Germany, France, and

Italy. Because of its locational advantage, Ecuador is the primary source of coffee for Chile.

U.S. Imports of Green Coffee from Ecuador, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mill. dol.</i>	<i>Percent</i>
1960	327	14.5	1.5
1965	502	24.7	2.4
1970	600	34.6	3.0
1975	694	48.7	3.4
1976	767	113.9	3.9
1977	505	123.0	3.4
1978	1,044	193.2	5.8

Source: U.S. Department of Commerce.

The Government of Ecuador generally has followed a laissez faire approach to export marketing, limiting itself to standard regulatory functions (e.g., quality control, licensing, etc.). There is relatively little policy consideration given in Ecuador to up-

grading coffee quality. As a result, there is almost no incentive to produce a high-quality product. Ecuadorian Arabica prices, therefore, are relatively low compared with those received by other Latin American producers.

Coffee export taxing policies, however, like international prices of late, have shown considerable fluctuation. In May 1977, export taxes on green, roasted, and ground coffees were increased to approximately 35 percent of the export price per 45 kilograms. This increase was imposed for general budgetary needs as well as to support economic and social development projects in coffee producing areas and for the then proposed Coffee Bank. Since tax legislation permits rate reductions when the international market price falls, the export tax was dropped back to 26.5 percent ad valorem as of December 1977. In addition to the general ad valorem export tax, two other taxes or levies are in effect. A tax equivalent to \$1.40 per bag goes to the Central Bank, 60 percent of these revenues go to a coffee diversification fund and 40 percent to export promotion. A separate levy, equal to 27 U.S. cents per bag, is required from exporters to cover Ecuador's share of ICO funding.

Peru

Status of the Coffee Industry

Peru's exports in the past 10-15 years have been three-pronged—minerals, fisheries, and agriculture. Within agriculture, coffee is one of the big three,

along with cotton and sugar. Export trade is of fundamental importance to the country, and the diversity of Peru's exports makes the national economy less susceptible to price and demand fluctuations for individual commodities than is the case in many other Latin American countries.

Despite its export diversity, Peru has been facing grave economic problems, possibly the most serious of which is a growing balance-of-payments deficit, resulting from sharp increases in imports and the purchase of services from abroad. Increased imports of food, fuel, raw materials, and capital goods have pushed the import bill up, while exports have increased less rapidly. The result is a serious financial situation and high inflation. Belt-tightening policies are now being implemented to limit imports, hold down inflation, and expand exports.

The agricultural sector has been one of the bright spots in the economy. For 1977, agricultural trade showed a \$140 million surplus, with coffee earnings contributing almost \$200 million out of a total of \$370 million for all agricultural exports. Export expansion policies for agricultural goods are high on the agenda of priorities for Peru's economic planners. As a result, coffee's status in the national economy is likely to be enlarged in the coming years. Preliminary estimates for 1978 have coffee exports totaling about \$168 million accounting for 54.7 percent of total agricultural exports and 9.1 percent of total exports.

Peru: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	434.7	18.4	4.2	42
1965	667.4	29.0	4.3	50
1970	1,047.6	44.7	4.3	84
1975	1,294.6	47.0	3.6	100
1976	1,243.1	110.9	8.9	303
1977	1,563.8	182.1	11.6	838

¹ Unavailable. Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. Peru's coffee production doubled between 1960 and 1970, partially as a result of a 36 percent increase in area harvested from 88,000 hectares in 1960/61 to 120,000 in 1970/71. From the early 1970's to the time of the July 1975 frost in Brazil, production was relatively static at 1.0-1.1 million bags, and area remained constant at 122,500 hectares.

The reasons for coffee's poor showing during those years are numerous—restricted credit for new plantings, uncertainty of Government policy regarding agrarian reform, higher production costs, reduced use of fertilizer, labor shortages, and generally less-than-optimal growing conditions. Since the frost, there has been a general turnaround in some of the institutional problems and at the same time increased price incentives have been present to expand production. Fertilizer use has increased since mid-1975 and more

ownership stability for small and medium growers under the agrarian reform movement has encouraged producers to employ better husbandry on their holdings

These expansionary conditions, however, have been offset somewhat by periods of either excessive drought or excessive rain, causing a downturn in yields. It is reported that many producers, utilizing profits from the boom period, are making considerable production investments. These improvements--

provided there are good growing conditions--should give a production boost to the industry

Approximately 80 percent of Peru's 50,000 growers are now grouped into cooperatives, which account for about 90 percent of coffee production. Peruvian coffee is grown mainly by smallholders in mountainous areas, where the land offers few--if any--optional crop possibilities. Many of the small number of large plantations recently have been taken over by the agrarian reform movement and are now being worked by cooperatives.

Peru: Coffee Production, Selected Years, 1960/61-1978/79

Year	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 kg/ha</i>	<i>Percent</i>
1960/61	525	6.0	0.8
1965/66	885	8.3	1.1
1970/71	990	8.3	1.7
1975/76	1,000	8.2	1.4
1976/77	1,000	8.2	1.6
1977/78	1,050	8.6	1.5
1978/79 ¹	1,050	8.6	1.4

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Source: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

Production policies and programs. On a functional basis, several governmental, quasi-governmental, and private organizations are involved in the formulation and implementation of production policies and programs. The Ministry of Agriculture, for example, implements technical assistance projects through its extension program. The Ministry's efforts have emphasized improvement of productivity in those areas considered ecologically suitable for coffee. Rehabilitation of existing plantings has been the usual method. Old, poor-yielding trees are either stumped or severely pruned to regenerate vegetative growth. Between the stumped, older trees new seedlings are planted, using high-yielding types such as Caturra. As young trees begin to bear coffee in sizable quantities, the older trees are removed from the orchards. By this method, the Ministry hopes to increase production significantly on existing area.

The quasi-governmental Peruvian Coffee Institute, set up in 1965, consists of representatives of growers, roasters, exporters, and the Government. The Institute functions mainly in an advisory capacity and as a medium by which private enterprise channels its inputs into the policy decision-making process.

Producer cooperatives also are important and growing factors in formulating policy. These coopera-

tives are grouped nationally as the Peruvian Federation of Coffee Cooperatives. Their influence in fostering cooperative-orientated production policies has increased as their ranks have grown and as coffee prices have strengthened. The remaining private producers, in fact, generally believe co-ops are now favored over them in credit availability and marketing.

Coffee growers customarily obtain production financing through either the Agrarian Bank or private banks. Each year, the Agrarian Bank determines land value and lends up to 80 percent of the established value. Credit is extended to growers only after they deliver their coffee to the cooperative. In 1977, the Agrarian Bank doubled its credit to growers over the 1976 level. However, despite the increased credit, growers were disappointed by long delays in receiving final payment for their coffee. Bureaucratic and marketing procedures for coffee exports by EPCHAP (Peru's agricultural marketing entity), the Central Reserve Bank (in charge of foreign exchange control), the Bank of the Nation (the tax-collecting agency), and the Agrarian Bank delayed final payment to many farmers for about a year.

In contrast to the Agrarian Bank, private banks will not lend money until a producer's coffee is

processed and sold by EPCHAP. Since coffee is normally sold by EPCHAP some time after producers sell it, delays in cash payment can result and present difficulties for the grower. Thus production financing through both the Agrarian Bank and private banks has caused growers serious cash-flow problems. As a result of these delays, many producers have turned to middlemen in order to receive immediate cash payment for their crops.

In order to improve the production financing situation for growers, the Federation of Coffee Cooperatives has been pressing the Government to create a coffee bank. In addition, the Federation is seeking

remittance of long- and medium-term loans by the Agrarian Bank for the rehabilitation of coffee plantations.

No major changes are foreseen in Peru's short-term production policies or practices. Although some improvements are being made in the coffee industry, the Ministry of Agriculture believes that if other production programs—such as the planting of new trees—do not get underway soon, outturn may drop over the next 5 years. At the same time, lower prices and increasing world supplies may prove to be a disincentive to producers and adversely affect Peruvian exports, creating domestic supply problems.

Peru: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	27.01	40.70	66.4
1973	(¹)	49.38	(¹)
1974	54.93	59.63	92.1
1975	51.36	55.84	92.0
1976	86.74	108.05	80.3
1977	155.50	201.65	77.1

¹ Unavailable. Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policies. Most Peruvian coffee is prepared by the wet method, resulting in a high-quality product. Sun-dried coffee—so-called *cafe natural*—is also produced in substantial amounts, especially in the relatively inaccessible northern zone. This coffee is of generally inferior quality and, as a result, most of it does not find its way into export marketing channels. Middlemen (*intermediarios*) have provided the internal marketing link between producers and exporters. In the past, the majority of small-scale coffee growers marketed their output through middlemen, located in small towns in the interior, who served as local distribution and commercial centers. The relatively small number of large producers, in contrast, usually dealt directly with exporting firms. This internal marketing system often left producers with inadequate prices for their output, as internal quotations from middlemen frequently were not in agreement with external prices.

The difficulty and expense of getting coffee out of producing areas was one reason for the evolution of the middleman in the Peruvian coffee sector. Only

the large producers were able to afford the costly transporting of coffee to Lima from remote interior regions. In some regions, because of the lack of roads, coffee has been flown into Lima, and in other areas manpower is used to carry coffee down the steep mountain slopes to the nearest roads accessible to trucks. New road construction projects have lessened this transportation problem somewhat in recent years. New roads under construction in northern Peru, for example, will allow coffee that formerly had to be carried by donkeys or aircraft to be shipped by truck to the coastal ports. This development may encourage greater production in the region.

The most significant shift in internal marketing has come with the growth of producer co-ops. The coffee co-ops have instituted coffee centrals, which provide growers with processing and storage facilities for their members, thereby potentially lessening the powerful role of the middleman. However, problems related to price and payment delays persist. Although coffee centrals serve the producing sector, they do not market coffee directly. Rather, they process and handle the product for EPCHAP.

The Peruvian Federation of Coffee Cooperatives has recommended the reorganization of EPCHAP's coffee marketing office to include cooperative delegates, who would share the marketing decisions. In addition, the Federation has recommended that middlemen be prohibited from making coffee purchases directly from cooperative members. It is estimated that because of slow EPCHAP payments, middlemen purchased some 30-40 percent of the 1976/77 crop, indicating that they remain an important factor in the internal marketing system.

Domestic consumption trends and policies. Domestic consumption for 1978/79 is forecast at around 250,000 bags, resulting in an estimated annual per capita consumption of about 0.88 kilograms. High

prices for coffee in recent years have held domestic coffee consumption at around the 250,000-bag level, or 23-25 percent of total annual production. There is no system of domestic marketing and price control, rather, the market is regulated by the law of supply and demand.

In general, the quality of coffee consumed in Peru is low. High world coffee prices during the past several years have prompted even more thorough coffee selection by cooperatives in order to obtain the greatest possible quantities for export. The result has been a higher priced, lower quality product than normally available for domestic consumption. Even though quality is poor, Peru requires that the product available on the domestic market be unadulterated.

Peru: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as percent of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	110	21.0	10.32	0.6
1965/66	195	22.0	12.01	1.0
1970/71	230	23.2	13.85	1.0
1975/76	350	35.0	16.09	1.3
1976/77	250	25.0	16.58	0.9
1977/78	250	23.8	17.07	0.9
1978/79 ¹	250	23.8	17.12	0.9

¹ Forecast. Source: Consumption data—U.S. Agricultural Attaché. Population data based on UN monthly Bulletin of Statistics (midyear estimate), with FAS estimate in forecast year.

Trends in export marketing and policies. The volume of coffee exports has trended upward in recent years as increasing production has provided greater exportable supplies. For 1977, exports reached a record 741,000 bags, of which about 80 percent was washed coffees and 20 percent natural. Exports for 1978 reached a new high of 912,000 bags, up 23 percent from the previous year's total as demand expanded because of falling world prices. Exports to the U.S. also reached a new record at 654,000 bags.

It is probable that a small portion of annual Peruvian coffee exports in recent years actually originated in Ecuador and Bolivia—movements that resulted from the inflated value of Peruvian currency on international money markets. With the sol now devalued at 196 per U.S. dollar (formerly 69 per U.S. dollar), it is expected that contraband traffic will become insignificant.

Part of the growth in exports can be attributed to the more efficient commercialization of coffee by

EPCHAP, which took over control of coffee exports in 1974. New marketing procedures established by EPCHAP in September 1975 give cooperatives more direct participation in sales for export. Each day, the export price is fixed on the basis of grade and prevailing market prices in New York and Europe. Co-ops with coffee to market sign a contract with EPCHAP to sell a specified quantity within a period of 1 to 10 days with the option to select a future delivery month. If the price eventually negotiated by EPCHAP with the foreign buyer is higher than the established daily price, the co-op gets the difference. If EPCHAP cannot sell the coffee within the contract period, the co-op can either take a lower price or cancel the contract with EPCHAP. Recent delays in final payments to producers, however, have disrupted these marketing procedures. For the 1977/78 crop, about 80 percent of the coffee likely sold for export by EPCHAP came from cooperatives and the balance supplied by independent farmers.

Under a new (July 1978) law, the National Enterprise for Input Marketing (ENCI) will assume many of the responsibilities previously held by EPCHAP,

including the exportation of coffee. ENCI also will strive to eliminate excessive delays in final payments to coffee growers.

Peru: Exports of Coffee

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	440	75.4	22.2	2.4
1965	548	79.1	18.3	2.6
1970	734	71.2	16.0	12.8
1975	720	68.1	16.4	15.5
1976 ¹	703	61.5	11.5	27.0
1977 ¹	741	62.2	13.2	24.6
1978 ²	912	(3)	(3)	(3)

¹ Destination percentages based on import data, as export data by destination are unavailable. ² Preliminary. ³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, EPCHAP.

Exports by destination are dominated by the United States, West Germany, and the Netherlands. Sales to nontraditional markets have grown significantly in recent years, Japan, Eastern Europe, and the USSR are proving to be growth markets.

The value of green coffee imported into the United States in 1977 from Peru was a record \$123.9 million, over 200 percent greater than the 1976 value. For 1978, U.S. imports of green coffee from Peru again set records both in quantity and value terms.

U.S. Imports of Green Coffee from Peru, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	347	15.4	1.6
1965	454	23.6	2.1
1970	523	31.6	2.7
1975	530	37.2	2.6
1976	432	58.6	2.2
1977	461	123.9	3.1
1978	654	125.1	3.6

Source: U.S. Department of Commerce.

The distribution of income derived from Peru's coffee exports is split unevenly among the several participant groups in the coffee trade. Producers, particularly, have complained that too much of a gap has existed between producer and export prices. In early 1974, for example, the export price for washed select coffee was \$70 per 46 kilograms, whereas domestic producers were receiving only \$59 per 46 kilograms for the same grade of coffee. With the new marketing procedures implemented by EPCHAP in September 1975, an attempt was made to return a

higher percentage of the f.o.b. export price to growers. EPCHAP, for example, charged a smaller discount rate for its export services. In addition, farmers selling coffee to EPCHAP for export under the new procedures were entitled to additional reimbursement, depending upon the f.o.b. export price obtained for their product. With the shift of responsibilities to ENCI, many of the new improved marketing procedures instituted by EPCHAP are likely to be continued.

In late 1978, the export tax on coffee was about 24 percent ad valorem, compared with 8 percent in 1975. A small percentage of the tax is used to finance international obligations accruing from Peru's membership in the ICO. The use of these tax funds is controlled by the Ministries of Agriculture and Finance, which transfer appropriate amounts at the request of the Peruvian Coffee Institute. As noted above, the Federation of Producer Cooperatives is also involved in influencing export policy and indirectly the trend toward a greater return flow to producers of coffee export earnings

Venezuela

Status of the Industry

Coffee production and trade are of relatively minor importance to Venezuela's national economy. Coffee accounts for less than 1 percent of annual foreign exchange earnings, while petroleum—the country's major export commodity—contributes about 95 percent. Currently about three-quarters of annual coffee production is used domestically.

While being dwarfed in importance by petroleum, coffee nevertheless constitutes a staple agricultural export, an important beverage for the domestic market, and provides an income for considerable numbers of farmers and laborers in rural areas. As such, the Government is currently engaged in vigorous policies to upgrade and expand coffee production to insure adequate supplies for domestic use, improve the level of profits to growers, and increase exportable supplies.

Venezuela: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	2,398	21	0.9
1965	2,428	17	0.7
1970	2,599	17	0.6
1975	8,800	21	0.2
1976	9,299	38	0.4
1977	9,542	51	0.5

Coffee Production

Trends. Production in Venezuela has been characterized by considerable year-to-year fluctuations. While weather is an important contributing factor, the oscillations in production are primarily a result of the cyclical nature of production—bad crop years followed by good crop years. Despite these factors, growers can do much to upgrade their holdings and thereby improve yields per hectare, which currently are among the lowest in Latin America.

Area harvested has declined significantly in recent years from an estimated 340,000 hectares in 1965/66 to 268,000 hectares in 1976/77. During the past decade, many submarginal plantings—especially those at relatively low altitudes—have been taken out of production. Coffee growing currently is concentrated at between 800 and 1,500 meters in the Andean states of Tachira, Merida, and Trujillo, where about 60 percent of the crop is produced.

Coffee has been cultivated primarily by small farmers, who generally have lacked sufficient capital for inputs needed to improve yields. Almost four-fifths of the coffee farms consist of 20 or fewer hectares, while 35 percent have between 1 and 4.5 hectares. Many growers lack legal ownership of the land they till. As a result, credit has been difficult to obtain, especially for making long-term improvements. Thus, yields have remained low, because of the advanced age of a high percentage of the trees, dense plantings, overshadowing, heavy erosion, and lack of good farm-management practices. The shortage and high cost of labor adds to the general plight of the coffee sector as does the lack of suitable roads for the transport of coffee. Because of the persistent labor shortage in the coffee areas, Colombian labor is brought in from time to time to aid in harvesting.

Production policies and programs. Policies aimed at increasing productivity are largely carried out through technical assistance and credit programs. The Ministry of Agriculture (MAC) is responsible for coffee renovation and recuperation projects. Measures currently employed by MAC to upgrade national yields include introducing higher yielding trees, increasing the number of trees per hectare, encouraging shade management through improved pruning methods, disease and erosion control, and extension services. MAC's general policy is to discourage coffee expansion into new areas, encourage the alternative cropping of marginal coffee land, and emphasize increased yields in regions ecologically suited to coffee.

The National Coffee Fund was created by MAC as an institute solely to look after the interests of coffee growers. The Coffee Fund's main objective related to production policy is to provide technical—as well as financial—assistance to coffee growers. In their most

Venezuela: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 kg/ha</i>	<i>Percent</i>
1960/61	825	2.7	1.3
1965/66	800	2.4	1.0
1970/71	900	3.1	1.5
1975/76	1,077	3.9	1.5
1976/77	602	2.2	1.0
1977/78	900	3.2	1.3
1978/79 ¹	870	3.0	1.2

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Sources: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

recent programs, MAC and the Coffee Fund have sought to renew approximately 70,000 hectares (about 25 percent of existing area) by 1980. During 1975/76, the Coffee Fund claimed that it had assisted in the planting of 42 million new coffee trees. These high-yielding trees should begin production by 1980/81. In addition to these efforts, MAC is sponsoring an intensive research effort to develop rust-resistant coffee varieties and programs to encourage the use of new insecticides and fungicides for the control of various coffee diseases.

Concurrently with its efforts in the technical assistance area, the Government is engaged in implementing credit provisions to aid growers. The basic objective of this program is to free coffee growers from debts incurred with various coffee middlemen.

Credit programs have been established to provide growers with short-term as well as long-term loans. The long-term loans, sponsored by the Coffee Fund, are for periods of up to 13 years, with an initial 3-year grace period.

Venezuela: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	44.18	45.83	96.4
1973	48.10	57.04	84.3
1974	54.97	63.46	86.6
1975	66.74	67.94	98.2
1976	66.66	95.45	69.8
1977 ¹	130.11	211.88	61.4

¹ 10 months only. Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policies. The wet method of processing predominates in Venezuela and processing improvements are being made to produce a greater quantity of high-grade coffee. In order to improve quality, the Coffee Fund along with segments of the banking community have put together financing aimed at upgrading washing, depulping, and drying facilities. Coffee centrals for

these purposes are being planned and built throughout the various producing areas. It is envisioned that these centrals will improve coffee quality through mechanization of coffee drying and cleaning operations.

As smallholders predominate in the coffee sector, the Government in recent years has organized special marketing arrangements to insure that reasonable prices are paid to producers. In its broadest interpretation, this policy has sought to eliminate the chain

of intermediaries operating between the producer and the exporter.

The National Coffee Fund establishes guaranteed prices for farmers and is the sole coffee exporter and supplier to the domestic market, thereby replacing local coffee buyers or middlemen. When international coffee prices exceed the farmer-guaranteed prices by a certain amount, the National Coffee Fund is required to refund the excess to producers in accordance with their deliveries to the Fund. When international coffee prices fall below the established minimum prices plus the commercial margin for storage and handling, the Government reimburses the Fund for the amount of coffee exported.

Domestic consumption trends and policies. Venezuela's apparent domestic consumption of coffee has

been increasing at a rate in excess of population growth. In recent years, domestic industrial use has accounted for about 75 percent of annual production, with 20 percent of annual production destined for export and the remaining 5 percent going to on-farm usage. In 1976/77, however, there was a significant drop in domestic consumption because of lower production and sustained exports. During the 1976/77 season as domestic supplies became extremely tight, there developed considerable public pressure on the National Coffee Fund to reduce exports.

The National Coffee Fund also sells coffee to the domestic roasting industry at a minimum fixed price plus an additional commercial margin to offset storage and handling costs.

Venezuela: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	400	48.5	7.61	3.2
1965/66	535	66.9	9.03	3.6
1970/71	635	70.6	10.78	3.5
1975/76	700	65.0	12.36	3.4
1976/77	437	72.6	12.74	2.1
1977/78	700	77.8	13.10	3.2
1978/79 ¹	720	82.8	13.46	3.2

¹ Forecast. Source: Consumption data—U.S. Agricultural Attaché. Population data based on UN Monthly Bulletin of Statistics (midyear estimate) with FAS estimate in forecast year.

Trends in export marketing and policies. Export volume has been relatively erratic, owing to production fluctuations and the general growth in domestic demand. In 1975/76, green coffee exports dropped to only 157,003 tons as short supplies and internal pressures forced the National Coffee Fund to limit exports. Venezuela also exports small amounts of roasted and soluble coffee. While roasted coffee exports have trended upward gradually since the early

1960's, domestic demand constraints appear to have put a relatively low ceiling on potential growth.

Exports of green coffee by destination have been dominated by the United States and Europe (mainly France and West Germany). As was the case with other producing nations, U.S. imports from Venezuela reached record values in 1976 and 1977. Most of Venezuela's roasted coffee exports also go to the United States.

Venezuela: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	408	87.9	12.0	0.1
1965	299	82.5	17.4	0.1
1970	273	90.4	8.9	0.7
1975	229	88.1	11.5	0.4
1976 ¹	298	96.6	14.1	(²)
1977 ¹	188	84.7	18.0	(²)
1978 ³	236	(²)	(²)	(²)

¹ Destination percentages based on import data as export data by destination are unavailable. ² Unavailable. ³ Preliminary. Source: International Coffee Organization, Pan American Coffee Bureau, Ministerio de Agricultura y Cría, Dirección de Economía Agropecuaria.

Since 1963, the National Coffee Fund has been exporting the output of coffee producers' associations and currently exports all coffee. Actual exports are governed by statutes that set standards for the various qualities of coffee exported. Any export of green coffee resulting from the mutual agreement between

the National Coffee Fund and producer associations requires an export permit issued by the Ministry of Agriculture. This export-permit control system enables MAC to ensure that adequate supplies are available for the domestic market.

U.S. Imports of Green Coffee from Venezuela, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. Dol.</i>	<i>Percent</i>
1960	345	18.0	1.6
1965	237	13.5	1.1
1970	253	15.8	1.3
1975	182	15.8	0.9
1976	288	35.0	1.5
1977	155	42.2	1.0
1978	239	45.5	1.3

Source: U.S. Department of Commerce.

Major Producers— Central America, Caribbean and Mexico

Costa Rica

Status of the Industry

Coffee is Costa Rica's primary foreign-exchange earner. Of the country's total coffee production, slightly over 90 percent is exported. In 1977, coffee exports were valued at a record \$319 million, double 1976 earnings. Export earnings from coffee averaged \$49.7 million annually from 1960 to 1969, and in the previous decade averaged \$31.7 million annually. Despite a substantial increase in the volume of

exports, coffee's share of total exports declined from 52.4 percent in 1960 to 19.6 percent in 1975 as other commodities gained in importance. The resurgence in the relative importance of coffee to the economy during 1976 and 1977 was largely the result of the price boom. For 1978 coffee exports totaled \$314 million as an increase in the volume of exports offset declining prices.

With an average annual output of about 1.36 million bags for the 1970-77 period, Costa Rica ranked third in coffee production in Central America. Largely as a result of an expanding agricultural sector dominated by coffee, economic activity in Costa Rica has remained at high levels in recent years, although a persistently tight labor market exists. Costa Rica's Coffee Office estimates that the coffee sector employs some 70,000 workers on a permanent basis and as many as 160,000 during the harvest period.

Costa Rica: Value of Coffee Exports in Relation to Total Exports

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. Dol.</i>	<i>Mil. Dol.</i>	<i>Percent</i>	<i>Index</i>
1960	84.3	45.4	53.9	50.8
1965	111.8	46.6	41.8	59.4
1970	231.2	73.1	31.6	65.1
1975	493.3	96.9	19.6	100.0
1976	592.9	153.9	26.0	190.7
1977	828.2	319.2	38.5	376.2

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. Costa Rica exemplifies the effect of improved technology on coffee production. Utilization of irrigation, high levels of fertilizer, disease control, shade management, intensive replanting of high-yielding varieties, and interplanting all have contributed to increased productivity. As a result, production for 1978/79 is forecast at a record 1.6 million bags, up 28 percent and 56 percent, respectively, from the harvests of the 1970/71 and 1965/66 seasons. Irrigation has proven to be a decisive factor in the increase of yields—mainly on the Central Plateau, where the irregularity of rainfall (particularly during the flowering and fruit development periods) often has caused considerable damage. For the 1976/77 crop, an estimated 16 percent of all cultivated coffee area was irrigated and 78 percent was fertilized.

Planted coffee area in Costa Rica has been relatively stable in recent years at about 81,000 hectares. The coffee sector is dominated by privately owned medium- to small-size farms (those under 14 hectares are considered small). On many farms, coffee is but one of several agricultural crops. Nevertheless, although area under coffee is only a small proportion of the total area of most farms, coffee traditionally is the main source of cash income.

Costa Rica has been characterized as a high-cost, intensive producer. Mainly because of high levels of labor remuneration, production costs for coffee traditionally have been higher than in other Central American countries. The IMF estimates that the average cost of producing 46 kilograms (1 quintal) of coffee in Costa Rica during 1971-75 exceeded \$40, which was between 10 percent and one-third higher than in other Central American countries. The unit cost for 1976 rose by about 20 percent over the 1975 level to \$52.60 per 46 kilograms, largely because of an increase in the minimum wage.

Costa Rica: Coffee Production, Selected Years, 1960/61-1978/79

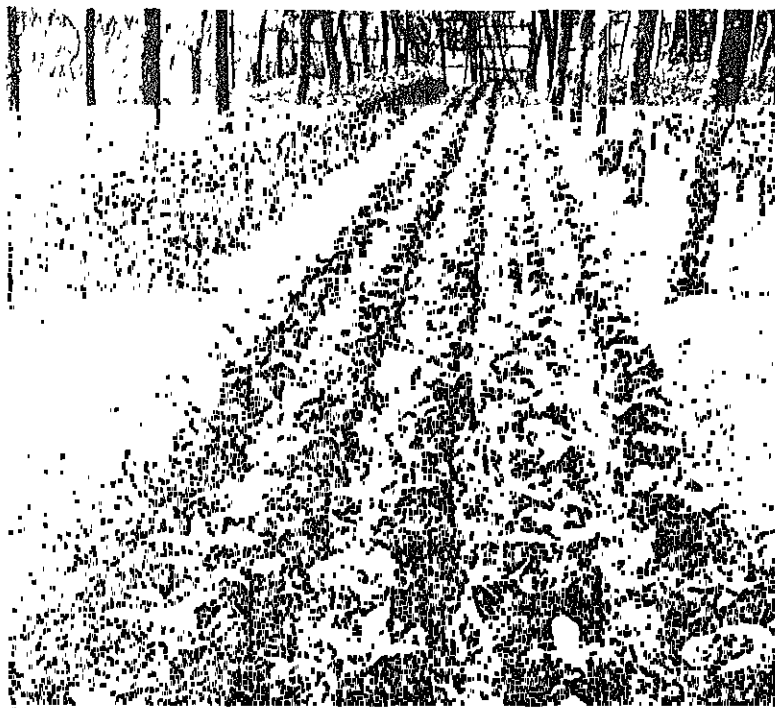
Year (Oct.-Sept.)	Production	Yield ¹	Production as share of total world production
	1,000 60-kg bags	60 kg/ha	Percent
1960/61	1,165	18.3	1.8
1965/66	1,025	14.7	1.3
1970/71	1,250	16.6	2.1
1975/76	1,305	16.0	1.8
1976/77	1,311	16.0	2.2
1977/78	1,550	19.0	2.3
1978/79 ²	1,600	19.6	2.1

¹ Yield based on planted area. ² Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979.
Source: U.S. Agricultural Attaché and Foreign Agricultural Service circulars.

Production policies and programs. Improvement of productivity is the Costa Rican Government's major goal in its policies and programs to expand research and bring more efficient technical assistance and credit to coffee growers. Normally, yields tend to be considerably higher as farm size increases because the larger farms have generally adopted new technology more thoroughly and have greater financial resources. As a result, the Government traditionally has made policy decisions aimed at giving greater assistance to small coffee growers and thereby opting for improvements in income distribution within the important coffee sector. For example, for the 1976/77 crop, Costa Rica's Central Bank gave the commercial banks authority to offer financing for harvesting expenses at \$11.67 per 46 kilograms for small growers and only

\$9.33 per 46 kilograms for large growers. In addition, the Central Bank granted credit of \$1.17 million to small coffee growers for working capital in their operations. Loans to small farmers for the 1976/77 coffee crop were channeled through the Federation of Coffee Producers' Cooperatives.

While the banking system provides credit facilities to growers, Costa Rica's Coffee Office—a public entity under the supervision of the Ministry of the Economy—develops policy recommendations. For example, the Coffee Office in recent years has made recommendations concerning programs aimed at renovating old coffee tracts. The Coffee Office then submitted to the Central Bank a request for the opening of a new line of credit to be used exclusively for the renovation of old coffee plantings.



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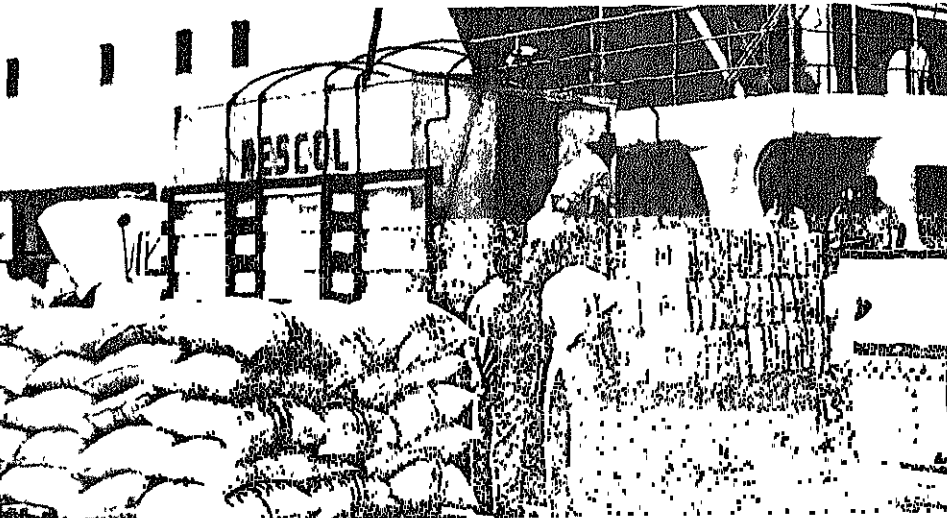
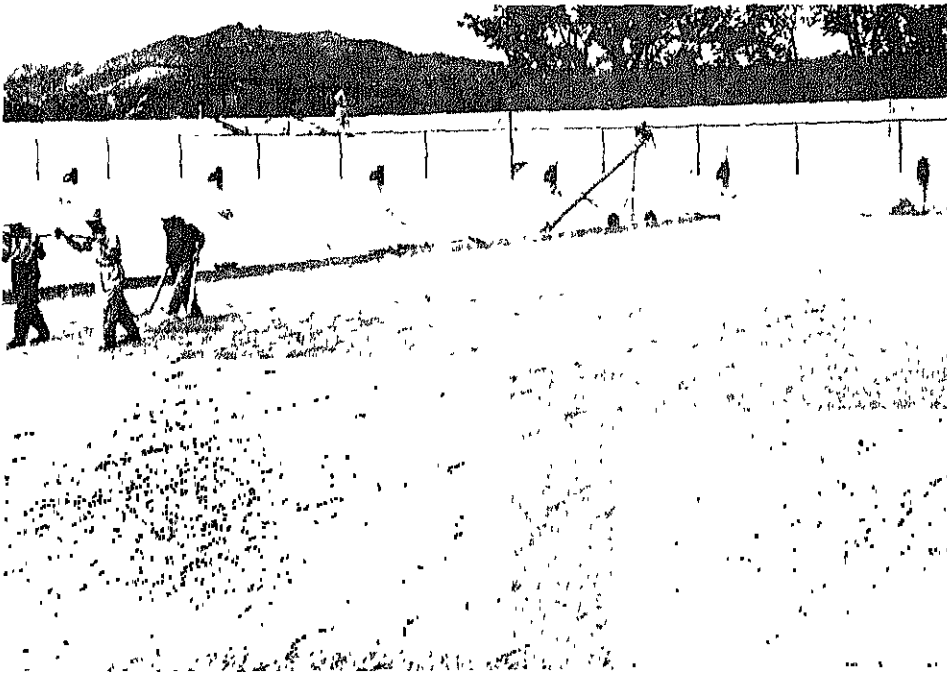
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1—A coffee nursery in El Salvador. The increasing utilization of newly developed high-yield coffee varieties, planted at greater densities than has been the traditional practice, is an important trend in many Latin American coffee producing countries. 2—Yehouda Elie (Leon) Yallouz, economist, Office of the U.S. Agricultural Officer, Rio de Janeiro, examines a coffee tree stumped following the July 1975 frost in Brazil. 3—Brazilian coffee seedlings prepared for planting in Paraná. 4—Guatemalan workers separating ripe red coffee cherries from immature green ones. Guatemala has been intensifying its coffee management techniques to boost yields. 5—Harvesting coffee in Colombia, the world's largest producer of high-quality Mild coffee. Only the ripe coffee cherries are picked. 6—In the Dominican Republic, workers spread coffee beans on a drying platform. 7—A Colombian coffee grower transports coffee by mule out of the rugged highlands to market. 8—Sun drying coffee during processing in Costa Rica. 9—Loading green coffee for export at a Colombian port. Colombia's principal ports for shipping coffee abroad are Barranquilla, Santa Marta, and Cartagena on the Atlantic coast, and Buenaventura on the Pacific coast.

In 1948, Costa Rica established a Coffee Office, which controls the export marketing of coffee. The two main objectives of the laws under which the Coffee Office operates are to assure that each sector of the industry receives an equitable return for its product or services and that no sector attains an unfair advantage over any other sector. These objectives are accomplished by requiring the registration with the Coffee Office of all purchases by the processors and all contracts for export by the exporters. The registration of contracts is the most important step, since final producer prices are based on the export price.

There are a number of taxes that must be deducted before the producer price is established. Domestic and export taxes on coffee are at the following levels: 1–2.3 cents per 46 kilograms delivered to *beneficios*, paid by producers, 2–23 cents per 46 kilograms on sales for domestic consumption, 3–10 percent ad valorem tax on exports paid by producers, 4–8 percent ad valorem paid on exports by exporters, 5–45 cents per 46 kilograms exported, paid by exporters. The ad valorem taxes on coffee are payable to the Central Government and form an integral part of the general income destined to meet the normal expenses of the Government.

U.S. Imports of Green Coffee From Costa Rica, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	271	14.2	1.2
1965	305	17.2	1.4
1970	375	24.1	1.9
1975	192	15.8	0.9
1976	179	29.5	0.9
1977	272	74.8	1.8
1978	334	69.6	1.8

Source: U.S. Department of Commerce.

Dominican Republic

Status of the Industry

For quite a number of years, coffee has been the second most valuable agricultural export commodity of the Dominican economy. Steadily increasing coffee prices over the last several high years have heightened the crop's importance as a foreign-exchange earner.

Coffee export earnings increased from \$29.6 million in 1972 to an estimated \$184.7 million in 1977, despite erratic output. The growth in earnings from

coffee has partially offset the drastic decline in sugar prices, the country's principal export commodity.

The Dominican Republic produces a wide range of agricultural products. However, a few agricultural export commodities along with some primary mineral-resource exports (e.g., ferronickel; bauxite) dominate the economy, making the country vulnerable to changes in world demand and international market prices. Nevertheless, in recent years the economy has shown considerable vitality and stability. The country's gross national product, for example, jumped from \$1.46 billion in 1970 to \$3.79 billion in 1976.

Dominican Republic: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	180.4	22.6	12.5	56
1965	125.5	21.6	17.2	62
1970	249.1	28.9	11.6	72
1975	893.8	43.2	4.8	100
1976	716.4	100.6	14.0	171
1977	780.4	184.7	23.7	293

Source: International Monetary Fund—International Financial Statistics May 1978, Jan. 1979.

Coffee Production

Trends. Coffee production has increased in recent years, but very erratically. Much of the country's coffee is grown in a semiwild state in extremely rough, mountainous terrain with a minimum of attention devoted to crop husbandary. Yields have been extremely low, especially when compared with some of the more advanced producers in Central America. Because of the extensive nature of coffee growing, annual output characteristically has been dominated by the coffee tree's natural physiology. Production during the past several years illustrates the impact of good-year-bad-year cycles. In 1975/76

output reached a record 1.04 million bags, 18 percent above the previous year's level. In addition to good growing conditions and extensive over-picking prompted by higher prices, the crop benefited from a "good" year in the 2-year crop cycle. The 1976/77 crop was down 45 percent from the record crop, not only because of less-than-normal growing conditions but also because it was the "bad" year in the 2-year cycle. For 1977/78, green coffee production is estimated at 1 million bags. The factors contributing to recovery in 1977/78 are more normal weather conditions, the recognized "good" year in the 2-year cycle, and the important initiation of substantial technical assistance programs by the Ministry of Agriculture.

Dominican Republic: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60-kg bags/ha</i>	<i>Percent</i>
1960/61	500	4.1	0.8
1965/70	615	5.1	0.8
1970/71	700	5.8	1.2
1975/76	1,040	8.6	1.4
1976/77	717	5.9	1.2
1977/78	1,010	8.3	1.5
1978/79 ¹	750	6.2	1.0

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Source: U.S. Attaché, Foreign Agricultural Service coffee circulars.

Production policies and programs. Coffee production policies and programs are handled through the Coffee and Cocoa Department of the Ministry of Agriculture. Efforts have been made in recent years to improve the Coffee and Cocoa Department's technical-assistance capability. Technical personnel have been relocated away from the capital to producing areas in an effort to maximize the effectiveness of programs. A new coffee rehabilitation program begun

in February 1977 seeks to upgrade productivity on 25 percent of existing area at a cost of \$8 million. The task of upgrading the coffee sector, however, is substantial, since the great majority of trees are beyond maximum production age, plantings are of low densities, and shade is excessive. Additionally, soils on many of the steep slopes where coffee is grown are badly eroded and require relatively large inputs of fertilizer.

Dominican Republic: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	26.79	46.12	58.1
1973	31.45	54.27	57.9
1974	35.24	60.06	58.7
1975	38.65	62.55	61.8
1976	100.02	109.41	91.4
1977	164.11	189.98	86.4

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing. Since the bulk of coffee production takes place on extremely steep terrain, the movement of coffee from farm to processing unit to export point has always been a serious problem. As a result, rural roadbuilding and upkeep are key factors in efforts to upgrade the coffee sector. Small producers, who dominate the industry, generally sell their coffee in parchment form to owners of dry mills, who are mostly exporters. These buyers traditionally have given credit, which official sources were unable to supply, to producers. While these private traders have been an important source of short-term loans, growers have tended to become more or less permanently indebted because of the relatively high interest rates charged.

In recent years, the Government has encouraged the formation of producer co-operatives and credit institutions to improve the efficiency of processing and marketing systems. Government financial help to coffee growers comes from the Agricultural Bank. The Cooperative Credit and Development Institute provides coffee cooperatives with credit facilities, particularly with regard to marketing.

Domestic consumption trends and policies.

Domestic consumption of coffee has been high in relation to total production. Internal coffee consumption for 1978/79 is forecast at 280,000 bags, or about 37 percent of total production.

The domestic retail price is established by the Government and is adjusted from time to time to reflect international price changes. When international prices rose rapidly in 1976/77, the Government was forced to move the internal price up several times to avoid a severe shortage of coffee for the domestic market. The local price for a 1-pound bag of roasted ground coffee peaked at \$4.81 per kilogram (\$2.18 per pound) and remained at that level for several months in 1977. The price was lowered in two successive steps during the summer of 1977 and in mid-August 1978 stood at \$3.79 per kilogram (\$1.72 per pound).

There is no production of soluble coffee in the country, and as a result a small amount of instant coffee is imported for sale in supermarkets. With the exception of controls to prevent adulteration of coffee on the home market and the setting of domestic retail prices, the internal marketing of coffee is free of Government control.

Dominican Republic: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	125	25.0	3.12	2.4
1965/66	160	26.0	3.62	2.7
1970/71	195	27.9	4.18	2.8
1975/76	285	27.4	4.84	3.5
1976/77	247	34.4	4.98	3.0
1977/78	270	26.7	5.12	3.2
1978/79 ¹	280	37.3	5.26	3.2

¹ Forecast. Source: Consumption data—U.S. Agricultural Attaché. Population data based on UN Monthly Bulletin of Statistics (midyear estimate) with FAS estimate in forecast year.

Trends in export marketing and policies. Coffee exports have trended upward in recent years with increasing production. While domestic consumption represents a sizable portion of annual crop utilization, exports—as a percent of production—usually represent about 60 percent of total annual output. Exports of green and roasted coffee registered 700,000 bags for 1976, valued at \$100.6 million. While the volume of exports was up only slightly in 1977, the value reached a record \$184.7 million. Preliminary IMF coffee export earnings data for 1978 total \$124.2

million, accounting for 18.4 percent of the value of total exports, again making coffee second only to sugar as an export earner.

The volume of exports in 1978 totaled 528,000 bags, down 40 percent from the 1977 level. With the decline in export volume the Dominican Republic's share of world coffee exports dropped from 1.6 percent in 1977 to 0.9 percent in 1978.

With respect to export destinations, the United States—including Puerto Rico—is the dominant market. The Dominican Republic also sells a sizable

quantity of coffee to Canada. Europe—especially Italy—has been a declining market in recent years. Roasted coffee exports are becoming an increasingly important source of earnings, with the U.S. market being of primary importance.

U.S. imports of Dominican Republic coffee—both green and roasted—reached records in volume and value in 1976 and 1977. For 1977, Dominican green

and roasted coffee represented 3.9 percent and 22.5 percent, respectively, of total U.S. coffee imports by volume. Only Brazil and Colombia supplied more roasted coffee to the U.S. market in 1977 than the Dominican Republic. Owing in part to its favorable shipping location increased Dominican supplies should continue to find ready markets in the United States and Europe.

Dominican Republic: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	481	86.0	12.7	1.3
1965	375	78.8	14.6	6.6
1970	487	72.5	19.6	0.1
1975	531	68.0	8.2	1.6
1976 ¹	700	81.3	(²)	(²)
1977 ¹	738	85.7	(²)	(²)
1978	528	(²)	(²)	(²)

¹ Destination percentages based on import data, as export data by destination are unavailable. ² Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Secretaría de Estado de Agricultura, Dirección del Café y del Cacao.

The Government's external marketing of coffee has been relatively free of control. Export sales are made by contract between domestic sellers and foreign buyers. However, sales contracts must be registered with the Coffee and Cocoa Department and must contain information concerning the quantity, type, delivery period, and destination of the coffee sold. The Coffee and Cocoa Department inspects

shipments for quality and issues ICO certificates of origin.

The Government receives considerable income from coffee exports, which are taxed at a rate equal to 7 U.S. cents per pound plus 20 percent on sales valued above 60 cents per pound, 30 percent on sales above 70 cents, and 40 percent on sales above 80 cents. In 1977/78, revenue from the coffee export tax amounted to an estimated \$35 million.

U.S. Imports of Green Coffee from Dominican Republic, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	403	19.1	1.8
1965	310	16.3	1.5
1970	352	21.6	1.8
1975	336	26.1	1.7
1976	551	68.0	2.8
1977	585	143.8	3.9
1978	461	101.9	2.5

Source: U.S. Department of Commerce.

El Salvador

Status of the Industry

El Salvador is the world's third-ranking producer of Mild coffees (after Colombia and Mexico) and Central America's leading producer. Traditionally, El Salvador's economy has been one of the most coffee-dependent in the world. Some progress has been made in diversifying the country's agricultural base and export mix; however, coffee remains the country's main crop and principal export commodity. A very high percentage of the population depends on agriculture for a livelihood. Of these, about 40,800 are coffee growers and many thousands more benefit

indirectly from employment generated by coffee harvesting, processing, and marketing activities.

Export earnings in 1977 were up sharply over the 1976 level, contributing to a trade surplus for the year. This unusually large monetary inflow, much of it resulting from the record \$611.3 million in coffee sales, spurred inflation from 7 percent in 1976 to more than 15 percent in early 1977. The problems generated by excess liquidity notwithstanding, Salvadorans—especially large coffee growers and Government planners—have been presented with an opportunity to invest the windfall profits and tax revenues resulting from the price boom in further improvement in coffee productivity and general economic development.

El Salvador: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mill. dol.</i>	<i>Mill. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	116.5	76.7	65.7	62
1965	188.7	96.1	50.9	70
1970	236.4	120.8	51.1	77
1975	514.7	172.0	33.4	100
1976	720.4	384.2	53.3	208
1977	967.4	611.3	62.1	379

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. El Salvador is one of the most efficient coffee-producing countries in the world, with near-world record average annual yields. Most of the coffee is grown under almost ideal conditions of climate and weather at altitudes between 500 and 1000 meters. In these areas, terrain is generally too mountainous for other crops. Area planted to coffee has remained relatively unchanged, with increased production coming from better cultural practices, including replacement of old trees and interplanting to obtain denser stands. In 1976/77, area planted to coffee was estimated at about 148,000 hectares, compared with about 142,000 hectares in 1966/67. In contrast, production in 1976/77 was estimated at a near-record 2.7 million bags, up almost 50 percent from the output 10 years earlier.

Of the 40,800 estimated coffee growers, about 4 percent produce 67 percent of the annual crop from farms that average around 63 hectares in size. The remaining one-third of the crop is produced by

growers whose holdings average less than 1 hectare. El Salvador's coffee growers are characteristically efficient and innovative. There is currently a tree population of 575,000 on about 149,250 hectares. High densities are achieved with locally developed dwarf-tree varieties. In recent years, there has been a tendency to plant more shadeless varieties of coffee to allow maximum utilization of the limited available area. Such varieties require heavy fertilization to carry them through the stress of increased exposure to sunshine. Fertilizer prices under these management conditions represent a critical variable input that impacts directly on yield.

While growing conditions are generally considered ideal, drought periodically has reduced production. Lack of rainfall following the blooming period for the 1977/78 harvest, for example, resulted in widespread bloom drop—especially in the lower elevations, which normally account for about 60 percent of production. Irrigation provides a potential—though largely untested—remedy for dry periods.

El Salvador: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 kg/ha</i>	<i>Percent</i>
1960/61	1,450	10.9	2.2
1965/66	1,820	12.9	2.2
1970/71	2,170	15.6	3.7
1975/76	2,530	17.9	3.4
1976/77	2,700	18.9	4.4
1977/78	2,050	14.1	2.9
1978/79 ¹	2,900	19.7	3.9

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Sources: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

Production policies and programs. It is generally believed that almost all suitable land for coffee production has already been planted to the crop. As a result, Government policy has sought for many years to encourage intensified cultivation practices. These policies, along with private entrepreneurship by progressive cultivators individually and through the producer association, have resulted in a doubling of output since the early 1960's. Forecasts for 1978/79 indicate that record yields can be expected.

Aid to producers comes through technical assistance and credit programs. Credit to producers is furnished by the El Salvador's National Coffee Company, by a number of banks, and by private exporters. Normally, short-term loans are granted and generally repaid when the coffee is picked and sold. Exporters also frequently arrange transportation from the farm to the processing plant for growers. As a result, many farmers have formed close business ties with particular exporters and sell their crop to them each year. The El Salvador Coffee Producers' Association represents the dominant interests of growers by carefully watching prices and the availability of adequate financing.

The National Coffee Company is a quasi-government institution created after World War II to serve the coffee industry. While El Salvador's National Coffee Department establishes policy, rules, and regulations, actual implementation is handled by the National Coffee Company. All segments of the coffee industry are represented on the Company's Board of Directors.

For some time, it has been realized that El Salvador has needed to strengthen its economy by developing a better balanced agricultural sector. Diversification has been discussed and the United Nations conducted a diversification study during the late 1960's. Although some marginal coffee lands have been taken out of production, the Government has not moved significantly toward the diversification goal. The question of what to produce in place of coffee has been a critical stumbling block, as the country has relatively little land in coffee that is suitable for other crops. In addition, with a large rural labor surplus, El Salvador would need crops that are intensively cultivated to maintain employment levels. Development of light industry may offer a potential outlet for surplus rural labor.

El Salvador: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	31.85	47.51	67.0
1973	34.16	53.98	63.3
1974	41.53	61.10	70.0
1975	32.58	56.66	57.5
1976	85.12	114.46	74.4
1977	165.46	186.61	88.7

Source: International Coffee Organization.

Coffee production costs in El Salvador appear to be among the lowest in Central America, although the IMF reports that they nearly doubled between 1971 and 1975, mainly as a result of increases related to the energy crisis. The Ministry of Agriculture indicates that production costs for the 1976/77 crop ranged from 32 to 39 cents per pound. In March 1977, during the height of the coffee boom, producers were receiving about \$1.82 per pound for a return of between \$1.43 and \$1.50. The remaining 4 percent (9 cents) went to the cost of processing the coffee to the green-bean stage. During the period of windfall earnings, the Government attempted to pass on the benefits to farm workers by raising minimum wages in the coffee sector. Minimum wages (plus meals) for coffee harvesters for the 1977/78 crop were set at \$3.70 per workday. This compares with \$2.20 per workday for the 1975/76 crop and \$1.62 for the 1973/74 crop.

Coffee Marketing

Trends in processing and internal marketing. Initial processing is usually accomplished by the wet method. Normally each farm processes its own crop. If water is not available, growers sell their coffee in cherry form to *beneficios*, where it is processed to the parchment stage.

Growers have several options available when selling their coffee. Some large growers process and export their own coffee. Others sell to private processors, private exporters, or the Salvadoran Coffee Company.

To assist the many small- and medium-size producers in the marketing of coffee, the Salvadoran Coffee Company extends short-term credit to growers and buys all coffee offered at prevailing international prices. Because of its small size, El Salvador's coffee industry has very well established internal marketing linkages. During boom-and-bust price cycles, for example, growers tend to deal with the same exporters. These patterns have facilitated the development of considerable year-to-year continuity within the industry.

Apparent domestic consumption trends and policies. Apparent domestic consumption has trended upward in recent years at about the same rate as population growth. Much of the coffee consumed domestically is cull or second quality and not considered suitable for export. Cherries that have fallen from trees and those damaged in processing invariably form the bulk of annual domestic consumption. The Government requires that some exportable-grade coffee be retained for the domestic market, usually about 7 percent of any given year's production. To help insure adequate domestic supplies, exporters must deliver 1 bag of low-grade coffee to the Coffee Company for every 4 bags exported.

El Salvador: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	104	7.2	2.51	2.4
1965/66	130	7.1	3.04	2.6
1970/71	158	7.3	3.55	2.7
1975/76	180	7.7	4.12	2.6
1976/77	185	6.9	4.23	2.6
1977/78	190	9.3	4.34	2.6
1978/79 ¹	195	6.7	4.45	2.6

¹ Forecast. Source: U.S. Agricultural Attaché. Population data based on UN monthly Bulletin of Statistics (midyear statement). FAS estimate in forecast year.

Trends in export marketing and policies. The volume of coffee exports for any given coffee year has always represented a large percentage of annual production. During the 1970's however, the volume of exports has fluctuated more widely in El Salvador than in other Central American countries, ranging from 1.9 million bags in 1970 to 3.1 million bags in

1975. These fluctuations in part reflect the inventory policies of the Salvadoran Coffee Office. Exports for 1978 were only 2.3 million bags compared with 3.0 million bags 1977. This reflects, in part, marketing policies of the Coffee Office—particularly its recent efforts to withhold supplies from the market in order to stem the price decline.

Europe traditionally has been the major buyer of Salvador's high-quality Mild coffees. West Germany (36 percent of total exports in 1975) has been the

major buyer in Europe, followed by the Netherlands. The United States normally takes about one-third of total exports.

El Salvador: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	1,178	31.5	67.6	0.9
1965	1,655	44.6	52.7	2.7
1970	1,865	31.8	65.1	3.1
1975	3,062	38.7	58.5	2.8
1976 ¹	2,666	39.2	56.4	4.4
1977 ¹	3,015	34.4	44.4	21.2
1978 ²	2,346	(³)	(³)	(³)

¹ Destination shares based on import data, as export data by destination unavailable. ² Preliminary.

³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Departamento Nacional de Cafe.

U.S. imports of Salvadoran coffee have trended upward in recent years as that country's exportable production has grown. Following the Brazilian frost in 1975, imports from El Salvador set records in

volume, value, and growth in market shares. In 1978, U.S. imports from El Salvador, however, fell sharply in both volume and price.

U.S. Imports of Green Coffee from El Salvador, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	446	22.3	2.0
1965	714	40.2	3.3
1970	539	32.5	2.7
1975	1,018	68.4	5.0
1976	1,045	154.5	5.3
1977	1,037	285.1	7.0
1978	627	113.8	3.5

Source: U.S. Department of Commerce.

El Salvador's National Coffee Office establishes marketing policies, which are implemented by the El Salvador Coffee Company. Along with private exporters and some large growers, the Coffee Company exports coffee. It also operates one roasting plant to supply the domestic market. The Coffee Company competes only with private exporters for coffee. The company's share of exports varies from year to year, and in 1974/75 represented about 11 percent, compared with about 40 percent in 1976/77. The significant increase in 1976/77 was largely a result of the Government's policy of exporting stocks that company had accumulated since 1974.

The company has several regulatory functions as well. Exporters must submit green-bean samples to the company for quality testing, along with copies of sales contracts. The company has the option of purchasing the coffee from the exporter if it believes the agreed sale price is not consistent with the current world price.

The Government derives considerable revenue from export taxes on coffee. During 1971-75, the IMF reports that coffee export-tax revenues averaged \$26 million annually—equivalent to 15 percent of Government revenues and 17 percent of the value of coffee exports. In 1976, the Government received

almost \$100 million from coffee export taxes, which accounted for over 30 percent of total Government revenues

Coffee is taxed on the basis of a value schedule established in 1950 and modified in 1961: (1) Up to 30 cents per pound 10 percent, (2) 31-35 cents per pound, 3 cents plus 20 percent on the amount over 30 cents; (3) 36-40 cents per pound, 4 cents plus 25 percent on amount over 35 cents; (4) 41 cents and above, 5.25 cents plus 30 percent on amount over 40 cents.

The proceeds from the tax traditionally have gone into the general treasury. Given the extraordinary boost in revenue, Salvadoran authorities established a special investment fund in December 1976 to transfer part of the Government's 1976 cash surplus. This fund is designed to finance investment projects, in particular those aimed at diversifying Salvadoran exports.

Guatemala

Status of the Industry

Guatemala is Central America's second ranking coffee producer, with annual output averaging about 2.2 million bags during the 1970-77 period. About 90 percent of annual production is normally exported. Coffee traditionally has been Guatemala's principal export commodity, accounting for 60 to 70 percent of all foreign-exchange income during the early

1960's. For several years, however, the Government has been engaged in an agricultural diversification program with the main objective of reducing the economy's great dependence on coffee. Cotton and sugar exports, for example, have become increasingly important in the trade balance.

Despite persistent inflation of 13 to 15 percent during the coffee-price boom, Guatemala experienced a growth rate of around 7.5 percent for both 1976 and 1977. This was largely a result of unprecedented coffee earnings as well as strong sales of cotton and sugar. Coffee exports for 1976/77 (October-September) reached a record value of \$486.9 million, with an average bag price of \$231.00, compared with earnings of \$198.5 million (\$104.44 per bag) for 1975/76 and \$152.0 million (\$68.81 per bag) for 1976/75. In 1977/78 the value of exports totaled \$489 million. Since the coffee crop was sold mostly on the futures market, it did not sustain the setback experienced in the second half of 1978, when prices declined significantly.

Normally, the coffee sector employs about 20 percent of the rural labor force, although as much as one-third of Guatemala's population may depend on income derived from the coffee sector. Notwithstanding the decline in its relative importance to the total economy, coffee remains a vital sector to Central America's most populated country, where about 70 percent of the people make their living from agriculture.

Guatemala: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	116.4	78.6	67.5	81
1965	186.9	91.7	49.1	80
1970	297.8	100.6	34.8	87
1975	641.0	164.2	25.6	100
1976	781.9	243.0	31.1	169
1977 ¹	1,144.7	526.5	46.0	328

¹ Total export value from Inter-American Development Bank data. Coffee export earnings for the year estimated. Sources: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979. Inter-American Development Bank—1977 Report on Economic and Social Progress in Latin America.

Coffee Production

Trends. Output in recent years has increased, largely as a result of intensive cultivation spurred by soaring coffee prices. According to the National Coffee Growers Association (ANACAFE), area under coffee production in 1976/77 was around 247,800

hectares, unchanged from the previous year's total and up only 4 percent from the mid-1960 level. The bullish world market during the price boom has enticed producers to pick their trees literally bare. The result was a record 2.5 million bags in 1976/77, an increase of 18 percent over the previous year's output.

Although there are 58,000-60,000 individual coffee growers, most of the coffee is produced on a relatively small number of larger holdings. On the basis of a census made by ANACAFE, 56 percent of the 1973/74 crop was produced by 1 percent of the growers. Large and medium-size estates account for about three-fourths of the total area under coffee. Some estates are over 1,000 hectares, among the largest in the world.

According to the Bank of Guatemala and ANACAFE, production costs rose about 10 percent per year between 1971 and 1975. In 1976, unit production costs are believed to have increased by over 20 percent to \$45 per 46 kilograms, compared with \$23

per 46 kilograms in 1971. The main reasons for these sharp advances were the energy crisis and the reconstruction program initiated after the earthquake of early 1976. The reconstruction program, in particular, has caused acute labor shortages and forced up wages substantially, especially for unskilled workers. In addition, competition for labor from cotton has added to the upward pressure on wages in the coffee sector. For 1977, production costs are estimated to have ranged from \$50 to \$55 per 46 kilograms, with labor costs and increased use of fertilizer making up the major portions of expenditures.

Guatemala: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 kg/ha</i>	<i>Percent</i>
1960/61	1,500	6.5	2.3
1965/66	2,050	8.6	2.5
1970/71	1,840	8.2	3.2
1975/76	2,149	8.7	2.9
1976/77	2,534	10.2	4.1
1977/78	2,350	9.5	3.4
1978/79 ¹	2,500	10.1	3.4

¹ Forecast based on Foreign Agricultural Service coffee circular FCOF 1-79, Jan. 1979. Source: U.S. Agricultural Attaché and FAS coffee circulars.

Production policies and programs. Since the 1960's Government policy has been to diversify the agricultural sector of the economy and at the same time upgrade the productivity of land already in the dominant crop—coffee. In 1960, ANACAFE was founded as a private organization to represent the interests of the coffee sector and to assist in increasing productivity. Various banks in Guatemala extend loans to coffee farmers for maintenance and improvement of their plantings.

Programs established by ANACAFE have emphasized renovation of old orchards, interplanting of high-yielding varieties, fertilization, pruning, and shade control. When followed, these programs have resulted in substantial increases in yields. Until 1975/76, however, ANACAFE had only about 10 percent of the producers with about 20 percent of the total planted area enrolled in its programs, although many of these were large, progressive producers. The sudden increase of world prices during 1975-1977 made more growers receptive to ANACAFE programs. In 1976/77, the number of growers enrolled in ANACAFE's programs jumped to 30

percent. As a result of higher levels of management and inputs—particularly a significant increase in the use of fertilizers—national yields were up 17 percent in 1976/77 over 1975/76 levels. The national goal is to reach 15-16 60-kilogram bags per hectare by the early 1980's.

While the period of rocketing prices for growers now appears to be over, many producers are in a financial position to put money back into their plantations. Investment is mainly directed toward greater use of fertilizers and higher density plantings. Some middle-size growers have been installing processing facilities on their plantations, while in some borer-infested areas the new income is being used to fight and eradicate this insect.

The problem of the coffee borer is significant, since it now covers about 32 percent of the total area and is known to reduce the weight of the affected bean by at least 10 percent. ANACAFE, the sole entity in charge of control, directs its efforts specifically at field inspections, grower education, quality controls at processing mills, and technical research. Should the infestation continue to spread at current

rates (42 percent in 1975 and 1976) it would not be long before yields would be greatly affected, and serious financial losses could result if adequate control measures are not taken.

There has been some effort to diversify from coffee to other crops in Guatemala. Government policy has been to increase productivity while providing incentives to remove marginal coffee land from production and disincentives to expanding coffee area. As with other major producing countries,

however, the practical problem of which crop or crops to switch to—crops that will earn the equivalent or better income than coffee and employ large numbers of people—has been difficult. Guatemala has experimented with a number of crops—including citrus, avocados, and African oil palm—with varying degrees of success. Citrus, for example, has not prospered because of the lack of a market, whereas African oil palm appears to have a reasonably bright future in Guatemala.

Guatemala: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	33.71	43.70	77.1
1973	41.66	57.76	72.1
1974	49.11	63.68	77.1
1975	41.81	55.75	75.0
1976	77.80	102.15	76.2
1977	97.23	188.38	51.7

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing. Processing and internal marketing tend to vary with the size of the producing unit. Large producers customarily process their own coffee and sell it directly to exporters. Some large producers even have their own brokers. In contrast, small producers sell their cherry coffee to medium-and large-size farms for processing or market through cooperatives. As with other parts of the coffee sector, processing and internal marketing are relatively free of Government regulation.

Domestic consumption trends and policies. Guatemalans are fairly heavy coffee drinkers. Total con-

sumption has trended upward in recent years with the increase in population, disposable domestic income, and the influx of tourists. Consumption for 1978/79 is projected at a record 310,000 bags, or about 12 percent of the production forecast. In its efforts to promote domestic consumption and improve the quality of coffee, ANACAFE has set up tasting centers, where high-quality coffee is sold at reasonable prices. These centers seek to encourage domestic and tourist consumption of coffee as well as provide a mild form of competition to the local roasting industry. Normally, about 70 percent of the coffee consumed domestically is of nonexportable quality.

Guatemala: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	200	13.3	3.95	3.0
1965/66	215	10.5	4.50	2.9
1970/71	250	13.6	5.42	2.8
1975/76	290	13.5	6.26	2.8
1976/77	298	11.8	6.44	2.8
1977/78	304	12.9	6.62	2.8
1978/79 ¹	310	12.4	6.80	2.7

¹ Forecast. Sources: Consumption data—U.S. Agricultural Attaché. Population data based on UN Monthly Bulletin of Statistics (midyear estimate). FAS estimate in forecast year.

Trends in export marketing and policies. Coffee exports have trended upward in recent years along with increasing exportable supplies. For 1978 total exports reached 2.2 million bags, accounting for 85 percent of expected production. The country's coffee exports traditionally have been in the hands of the

private sector, which has fostered a strong free-market spirit among traders as well as Government officials. There are numerous coffee exporters, and competition among them is said to result in fair prices for producers.

Guatemala: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	1,329	62.1	37.3	0.6
1965	1,510	56.2	32.1	11.7
1970	1,599	46.9	50.2	2.9
1975	2,158	38.0	55.0	7.0
1976 ¹	2,142	37.4	55.2	7.4
1977 ¹	2,173	41.1	52.7	6.2
1978 ²	2,191	(³)	(³)	(³)

¹ Destination percentage based on import data as export data by destination are unavailable. ² Preliminary. ³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Asociacion Nacional del Cafe.

The United States and West Germany are normally the largest purchasers of coffee from Guatemala. In recent years, the relative importance of the U.S. market has been declining as Guatemala has diversified its outlets. The Netherlands, Belgium, and Japan also are important markets for Guatemala. The Japanese market, especially, has shown considerable growth in recent years, totaling 5.2 percent of green-coffee exports in 1977, compared with only 1.1 percent in 1970.

U.S. imports of green coffee from Guatemala in 1977 reached a record value of \$210.7 million, 105 percent over the 1976 level. Total import values for 1978 were only slightly below the 1977 level, largely because increased import volume offset declining prices. This increased demand results in part from unavailability of coffee from El Salvador.

External coffee policy is handled by the Government through the Coffee Policy Council, which seeks to reconcile policy decisions with national interests. Under the Coffee Policy Council, ANACAFE is responsible for implementation of all aspects of domestic and external marketing policy. While the

purchase and sale of coffee for export is not subject to control, ANACAFE provides a regulatory service by insuring quality control, and registration of exports, and would function as the administrative entity if export quotas were reinstated.

Coffee taxes represent a significant source of revenue for Government operations. Guatemala levies an ad valorem tax and a general transaction tax on coffee exports. There is also a small charge on each bag of coffee exported to cover the operating costs of ANACAFE. The transaction tax is currently 2 percent of the f.o.b. value and the tax for ANACAFE is 25 cents per 46 kilograms. The current schedule for the ad valorem tax ranges from a 5 percent tax on export prices from between \$35.10 and \$40 per 46 kilograms to a \$2.50 charge plus 45 percent tax on export prices exceeding \$50 per 46 kilograms. Net income derived from coffee exports is also subject to income tax. The rates are progressive, reaching a maximum of 67 percent on a taxable income of \$500,000. There is, however, a special rebate of 15 percent on tax liabilities originating from income derived from agriculture.

U.S. Imports of Green Coffee from Guatemala, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	799	40.9	3.6
1965	904	51.0	4.2
1970	712	45.2	3.6
1975	874	63.7	4.3
1976	749	105.1	3.8
1977	832	210.7	5.6
1978	942	202.0	5.2

Source: U.S. Department of Commerce.

Haiti

Status of the Industry

Although Haiti is not one of the major world producers and exporters of coffee, the commodity has long been the country's primary export. In 1977, coffee exports totaled a record \$67.3 million or 45.1 percent of the total value of exports. Bauxite and sugar—the next leading export commodities—contributed only 14.7 percent and 1.8 percent, respectively, to total export earnings. Given the underdevelopment of the economy (GNP in 1975 was only \$916 million, with a population of 4.58 million), the UN has designated Haiti as one of the world's 25 most underdeveloped nations. This situation accents the

overall importance of coffee to the economy in terms of employment, levels of disposable personal income of the coffee sector, and revenues from export taxes.

Haiti's coffee sector for some time has suffered from structural inefficiencies, including low yields resulting from primitive production techniques, poor transportation facilities, lack of grading capability, a primitive marketing network, and high taxes that result in very low returns to producers. These problems are complicated by a system of land tenure characterized by extreme fragmentation of holdings, which has caused a steady decline in coffee producing area. In order to deal with these problems, the Government and U.S. AID have recently implemented a development program to upgrade and revitalize the entire coffee sector.

Haiti: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	33.1	17.3	52.3	63
1965	36.7	19.8	53.9	74
1970	42.6	14.9	35.0	84
1975	80.5	21.3	26.5	100
1976	124.5	46.6	37.4	163
1977	149.3	67.3	45.1	353

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. The combination of very primitive production methods and extreme climatic factors (e.g., hurricanes and drought) have been reflected in year-to-year fluctuations in Haiti's coffee output. While a 2-year production cycle is evident at times, the upswings and downturns have been caused more by climate than by changes in production techniques. During 1976/77, for example, green coffee production faltered, dropping 17 percent from the previous year's level as severe drought conditions (late 1976 through April 1977) combined with the good-year-bad-year yield cycle to reduce total output. For 1977/78, the crop was about 550,000 bags, as excessive rainfall during the final months of 1977 inflicted some damage on the crop. In addition,

sharply falling prices have acted as a disincentive for producers to increase inputs and follow better cultural practices.

Haiti currently has about 140,000 hectares in coffee (FAO estimated 180,000 hectares in the mid-1960's), of which 11 percent is controlled by large planters with over 6 hectares and the remainder by small farmers with fewer than 6 hectares.

Coffee yields have been among the lowest in the world. At least 60 percent of Haiti's coffee trees are over 50 years old and about 20 percent are between 20 and 40 years. Virtually all of the coffee area has an extremely high density of trees. The reason for this overpopulation is that trees sprouting from fallen seeds are not cleared, but simply allowed to grow. The result is overcrowded, thin, spindly trees with extremely low bearing capacity.

Haiti: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60 bags/ha</i>	<i>Percent</i>
1960/61	425	2.4	0.6
1965/66	575	3.2	0.7
1970/71	550	3.8	0.9
1975/76	650	4.6	0.9
1976/77	538	3.8	0.9
1977/78	550	3.9	0.8
1978/79 ¹	530	3.8	0.7

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Sources. U.S. Agricultural Attache, Foreign Agricultural Service coffee circulars.

Production policies and programs. Haiti's coffee sector has been held back in part by a lack of comprehensive policies and programs to deal with the basic infrastructure problems that have beset the industry. In recent years, the need for proper soil conservation and coffee rejuvenation programs have been among the most pressing problems. Because of the general lack of adequate mountain roads, the small size of coffee production units and their widespread distribution, basic extension work has been impeded. These problems and others, however, are now being tackled under a comprehensive project designed to rehabilitate the entire coffee sector.

In November 1974, a 5-year Small Farms Program was initiated, with financing primarily provided by U.S. AID. Access roads and coffee centers are under construction or are already in operation in a number of targeted regions. They are designed to supplement and improve the accessibility of Government extension efforts. A subsidized fertilizer purchase scheme is now in operation. The project goal is to increase production significantly (to the 5-7.5 60-kilogram-bag-per-hectare range) on about 9 percent of the cultivated area.

The rehabilitation program aims to increase production to the 855,000-bag level by 1980/81. It is envisioned that this objective could be achieved entirely through improved yields resulting from better cultural practices and more fertilizer, and that the area planted to coffee would be held at the same level or even decreased slightly.

Extension education is a key element to the achievement of project goals. Repeated demonstrations of the value of modern technical practices—such as proper spacing, pruning, fertilization, and pest control—are necessary to encourage their adoption by the small farmers. It is estimated that during the past 15 years the Government has distributed free of charge more than 10 million young coffee trees without a correspondingly scaled extension program. The result was a continuation of traditional practices—very few old and unproductive trees were uprooted and no significant improvement in national output was achieved. This is one reason for the emphasis on agricultural extension in the joint U.S.-Haitian program.

Haiti: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as shared of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	16.69	41.98	39.7
1973	27.94	51.12	54.6
1974	29.57	57.63	51.3
1975	20.87	54.26	38.5
1976	63.23	91.54	69.1
1977	96.89	183.38	52.8

Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing policies. About 90 percent of the Haitian coffee crop is prepared by the dry method, and usually results in low-quality beans. Producers traditionally sell to middlemen, who generally have paid very low prices. Improved processing and internal marketing of coffee have long been recognized as essential to the upgrading of the industry.

Part of the Small Farms Program includes a promise on the part of the Government to improve the producer's price by assuring farmers not less than 50 percent of the f.o.b. value of coffee exported. In addition, analysis of possible local and regional producer associations is being undertaken. The Government—through its extension services—and the Haitian Coffee Institute (IHPCADE) is involved in these

and other programs related to upgrading the processing and internal marketing portions of the coffee sector.

Domestic consumption trends and policies. Domestic consumption has trended upward in recent years at about the same rate as population growth. Much of consumption takes place in the rural areas where coffee is grown. Consumption has ranged from 35 to 45 percent of annual production over the past decade, and has tended to spurt upward during periods of drought. During 1976/77, for example, severe drought took its toll of food crops and Haitians were forced to use heavily sweetened coffee as a food source. Such situations have occurred repeatedly in the past. Programs to improve the output of food crops such as rice, corn, and cassava could reduce this internal usage of coffee.

Haiti: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	150	35.3	3.68	2.4
1965/66	170	29.6	3.97	2.6
1970/71	200	35.3	4.31	2.8
1975/76	225	34.6	4.67	2.9
1976/77	242	45.0	4.75	3.1
1977/78	233	42.4	4.83	2.9
1978/79 ¹	240	45.3	4.91	2.9

¹ Forecast. Sources. Consumption data—U.S. Agricultural Attache. Population data based on UN Monthly Bulletin of Statistics (midyear estimate) with FAS estimate in forecast year.

Trends in export marketing and policies. Exports of green coffee have tended to be erratic in volume, largely as a result of fluctuations in production. Exports of green coffee were a record 446,000 bags in 1975/76—a 50 percent increase in volume over the previous year's level—and were valued at \$45.5 million. Limited by lower production, increased local consumption, and low stock levels, exports dropped 40 percent in 1976/77 to 265,000 bags.

Coffee exports were valued at \$65 million in 1976/77 and export taxes collected on coffee by the Government totaled \$18 million.

During 1977/78, volume and value of exports were down significantly from 1976/77 levels. One of the main goals of the current coffee rehabilitation program is to increase production to the point where the country can export 500,000 bags per year by 1980.

Haiti: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	394	15.3	83.7	1.0
1965	399	27.6	72.2	0.2
1970	260	21.9	76.5	1.6
1975	315	26.6	72.6	0.8
1976 ¹	419	36.3	63.2	0.5
1977 ¹	289	31.8	63.3	4.9
1978 ²	259	(³)	(³)	(³)

¹ Destination percentages based on import data, as export data by destination are unavailable. ² Preliminary ³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Instituto Haitien de Promotion du Cafe et des Denrees D'Exportation.

Haitian green-coffee exports go to a fairly wide range of buyers. Europe has been the largest market, with France, Italy, and Belgium being the most important volume buyers. The United States is also an important buyer of green coffee as well as a small amount of roasted coffee exported annually.

The Government levies a regressive tax on coffee exports—one of the highest in the world. Exporters have passed this tax to producers and there are no indications that the Government will change its taxation rates. The Government has, however, promised to improve the producer's price since the lack of remunerative returns to growers has fostered the

continued underdevelopment of the coffee sector. Farmers received an average price equal to \$1.90 per kilogram in 1976/77, compared with an overall average of \$1.25 during 1975/76 and 46 U.S. cents in 1974/75. Although in early 1978 producers were receiving an average price of close to \$1.00 per kilogram of green coffee, the Haitian Coffee Institute estimates that the average for the 1977/78 season will be only 65-75 U.S. cents. One reason for the reduction in the producer's price is the stiff new export duty placed on coffee exports in February 1977.

U.S. Imports of Green Coffee from Haiti, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	64	2.6	0.3
1965	100	5.0	0.5
1970	60	3.3	0.3
1975	81	5.4	0.4
1976	152	15.9	0.8
1977	92	23.1	0.6
1978	61	12.1	0.3

Source: U.S. Department of Commerce.

Honduras

Status of the Industry

The importance of coffee in the economy of Honduras always has been overshadowed by the export earning power of the banana industry. However, coffee consistently has been the second most important agricultural export crop during the past

decade. With the dramatic upswing in coffee prices during the past 3 years coming at a time of increased exportable supplies, coffee was able to generate record foreign-exchange earnings. The dimensions of the increase in the Honduran coffee sector's net earnings becomes fully apparent only when compared with national income. These earnings amounted to only 1 percent of national income in 1975, 4 percent in 1976, and an estimated 18 percent in 1977.

Honduras: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Index of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	63.0	11.7	18.5	66
1965	126.2	22.2	17.5	77
1970	181.8	25.8	14.2	87
1975	292.8	56.9	19.4	100
1976	394.1	100.3	25.6	196
1977	506.1	168.2	33.2	401

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan 1979.

Coffee export earnings for the period January-August 1978 totaled \$185.9 million, compared with \$168.2 for all of 1977 (Sept.-Dec. 1978 earnings not available). A significant increase in the volume of exports largely accounts for the record earnings during a period of declining prices.

Coffee Production

Trends. Coffee production in Honduras has doubled during the past decade. In 1977/78, total production reached the long-sought goal of 1 million bags, compared with production of only 340,000 bags in 1967/68 and 275,000 bags in 1960/61. As Honduran coffee growers have been increasing production, they have also been moving toward improving their product's quality and thereby obtaining higher prices.

For 1977/78, planted area was estimated at 122,279 hectares, up 6 percent from the previous season's total and of which about 91 percent was in production. This most recent increase in area was brought about by expansion of existing plantations, rather than by opening new areas. In recent years—in

contrast to other Central American producers—Honduras has been expanding its cultivated coffee area. Coffee area planted in 1977/78, for example, is up 52 percent from the 1970/71 level. In recent years, the Honduran Coffee Institute (IHCAFE) has provided growers with millions of seedlings to help increase plantings in new areas or to increase the tree density on older holdings.

Despite weather problems, yields have been trending upward in recent years—an increase attributed to better cultural practices promoted by IHCAFE as well as expanded lines of credit to growers aimed at increasing productivity. Honduras has taken important steps to improve yields through significant increases in application of fertilizer.

Based on FAS production and area estimates, yields in 1977/78 reached 10.14 bags per hectare. The 1977/78 crop benefited from the previous year's fertilization efforts as well as additional production area. When these yields are compared with those in neighboring El Salvador, which regularly has been obtaining more than 15.0 60-kilogram bags per hectare, the impression is that Honduras has considerable potential for improvement.

Honduras: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60-kg bags</i>	<i>Percent</i>
1960/61	275	4.6	0.4
1965/66	460	6.9	0.6
1970/71	570	7.7	1.0
1975/76	843	8.0	1.1
1976/77	767	7.1	1.3
1977/78	1,100	10.1	1.6
1978/79 ¹	1,100	10.0	1.5

¹ Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979. Sources: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

Production policies and programs. Honduras's official coffee policy is coordinated and implemented by IHCAFE. This entity, created in 1970 as an organization of mixed public and private ownership, has as one of its main functions assistance to small-scale coffee farmers in the production and marketing of their crop. Particular emphasis is given to aiding coffee cooperatives in increasing production on existing plantings—mainly through adequate use of fertilizer and other improved cultural practices.

The Government has made the development of the coffee sector one of its priority development goals during the past several years. With the rise in coffee prices, the Government has substantially increased its financial commitment to coffee in order to benefit from higher export earnings. The technical assistance program for coffee, for example, was increased from the \$800,000 spent in 1975 to \$5 million in 1976. For calendar 1977, the Government provided IHCAFE with \$30 million for assistance to small growers. The program included maintenance and improvement of existing roads and the opening of

new roads. The number of coffee extension agents has been tripled and the area of their coverage has grown significantly. IHCAFE also has been emphasizing intensification of plantings per unit area as well as disease prevention measures.

Production improvement programs and policies have been largely aimed at small producers, though recently credit lines were expanded to medium and large producers as well. Land tenure problems, however, traditionally have presented coffee policymakers with difficulties in program implementation. About 80 percent of all coffee growers have no titles of ownership to their land. Currently, there is an agrarian reform movement aimed at resolving the nation's land tenure issues. This situation, however, has created considerable uncertainty, deterring the capable producer from further investment. In addition, the majority of small producers, many of whom have their plantings on communal or Government lands without titles of their own, are fearful of committing themselves to financial ventures over which they have no control.

Honduras: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	21.58	37.84	57.0
1973	36.98	55.16	67.0
1974	50.29	64.64	77.8
1975	38.95	53.18	73.2
1976	140.02	(¹)	(¹)
1977	153.43	213.66	71.8

¹ Unavailable. Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing. The bulk of Honduran coffee is washed. Most processing is done in *beneficios* (coffee cleaning establishments) in the rural areas, some of which are owned by exporters. Growers generally sell to dealers, who in turn sell to exporters, although there is a tendency for exporters to have their own buying agents in the growing areas. For some time, it has been realized that internal marketing procedures have been inadequate. Lack of suitable roads has hampered internal marketing. This situation is rapidly improving under programs coordinated by IHCAFE. Investment in increasing numbers of processing units by individual growers and through cooperatives is also underway. With parchment coffee, individual growers and cooperatives have considerably more flexibility in their marketing decisions.

Domestic consumption trends and policies. Given the relatively small volume of coffee production in Honduras until recently, domestic consumption has absorbed a larger share of annual production than in most other Central American countries. This situation is changing, as domestic consumption now accounts for only about one-tenth of total annual production. The total volume of consumption, however, has been trending, slightly upward at about the same rate as that of the population increase—about 2.8 percent annually.

In Honduras, where rural residents account for 63 percent of total population, at least 50 percent of the coffee consumed is used at home in the rural areas. According to IHCAFE, this amounts to about 35,560 bags for rural consumption, which when added to the 71,440 bags used for urban consumption, totals the 107,000 bags in 1977/78.

IHCAFE also determined that commercially roasted coffee demand for internal consumption was covered by 9 percent and 7 percent of the 1976/77 and 1977/78 crops, respectively. This coffee, managed

by IHCAFE, was sold to roasters on an allotment basis. The Government also fixes retail prices for roasted coffee.

Honduras: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Million</i>	<i>kg</i>
1960/61	50	18.2	1.91	1.57
1965/66	85	18.5	2.26	2.26
1970/71	110	19.3	2.46	2.68
1975/76	104	12.3	2.83	2.20
1976/77	104	13.6	2.91	2.14
1977/78	107	9.7	2.99	2.15
1978/79 ¹	110	10.0	3.07	2.15

¹ Forecast. Sources. Consumption data—U.S. Agricultural Attaché. Population data based on UN Monthly Bulletin of Statistics (midyear estimate) with FAS estimate in forecast year.

Trends in export marketing and policies. Honduras has registered record exports, by volume, during the past several seasons, reflecting higher production and a drawdown in inventories. Estimated exports for 1978 (Dec.-Jan.) were a record 958,000 bags. Exports

would have been substantially larger for the 1977/78 marketing year had not Honduras agreed to withdraw from the international market after the Other Milds conference in El Salvador during October 1977.

Honduras: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	258	57.7	33.8	8.5
1965	417	69.3	30.7	0
1970	423	51.2	43.9	4.9
1975	812	49.3	43.2	7.5
1976 ¹	722	44.0	43.9	12.0
1977 ¹	599	36.6	43.7	19.7
1978 ²	958	(3)	(3)	(3)

¹ Destination percentages based on import data as export data by destination are unavailable. ² Preliminary. ³ Unavailable. Sources: International Coffee Organization, Pan American Coffee Bureau, Instituto Hondureño del Café.

Export markets are dominated by the United States, West Germany, and Switzerland. Japan has been a small but growing market. The bulk of shipments normally move during the first quarter of the calendar year (harvests occur October-March). Honduras has been a steady supplier of coffee to the United States, its largest single market. The value of coffee imports from Honduras, of course, rocketed with the recent price explosion. For 1977, the value of imports was almost eight times the 1975 level.

Increased import volume for 1978 largely offset the current decline in prices, as Honduras's share of the U.S. market appears to be expanding.

The basic coffee export policy of the Government is to increase exports and expand markets. Production and export policy implementation and regulatory functions are handled by IHCAFE. Taxes derived from coffee exports are an important source of Government revenue, and setting their rates is a

significant policy decision. In December 1975, the Honduran export tax on coffee was changed from a specific tax equal to \$5 per 60-kilogram bag to an ad valorem tax. This action more than doubled the effective tax rate from 7 percent of the export value in 1975 to 15 percent in 1976. Coffee export taxes, which contributed less than 3 percent to total Government revenue in 1975 and 7 percent in 1976, were estimated by the IMF to reach 26 percent of total revenue in 1977. Income from coffee exports is subject to income taxes.

Despite the substantial increase in the tax burden on coffee export earnings and a considerable rise in production costs, (\$48 per 46 kg in 1976, compared with \$38 in 1974) net income to the Honduran coffee sector reached record levels in 1976 and 1977. Prices received by growers also reached unprecedented levels in 1977. Reinvestment of these public and private earnings in the coffee sector as well as in general infrastructure point to a continuation in the growth of the Honduran coffee sector and its importance to the national economy.

U.S. Imports of Green Coffee from Honduras, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. dol.</i>	<i>Percent</i>
1960	332	15.5	1.5
1965	290	15.4	1.4
1970	213	13.4	1.1
1975	401	26.8	2.0
1976	318	105.1	1.6
1977	219	210.7	1.5
1978	535	202.0	3.0

Source: U.S. Department of Commerce.

Mexico

Status of the Industry

Mexico ranks fourth in world coffee production and sixth in exports. Production is forecast at 3.8 million bags in 1978/79, or 5.1 percent of the expected world crop. Coffee currently is Mexico's leading agricultural export commodity, and in recent years has ranked second only to petroleum as an export earner. While coffee exports in 1977 were

valued at a record \$429 million or 10.3 percent of the total value of exports, the Mexican economy has never been as dependent on coffee as a foreign-exchange earner as has Brazil, Colombia, and some of the larger Central American producers. Although in recent years the Mexican economy has grown and diversified significantly, it continues to face persistent balance-of-payments problems. Coffee, along with other agricultural commodity exports, comprise a sector for which Government policies and programs have been formulated to improve the trade balance as well as provide additional foodstuffs for the country's growing population.

Mexico: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960-77

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Percent</i>	<i>Index</i>
1960	765	72	9.4	64
1965	1,120	73	6.5	69
1970	1,403	86	6.1	79
1975	2,904	185	6.4	100
1976	3,418	337	9.9	195
1977	4,167	429	10.3	561

¹ Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. Coffee production in Mexico has trended upward in recent years, largely as a result of yield increases rather than expansion of area under cultivation. While considerable improvement in output per unit area has been made, Mexico's coffee yields remain relatively low compared with some of the major producers in Central America. For example, Mexico's estimated average annual yield in 1976/77 was 10.3 bags per hectare, compared with 18.9 and 17.7 bags per hectare for El Salvador and Costa Rica, respectively.

Area under coffee is currently estimated at around 356,000 hectares, with the bulk of production concentrated in Veracruz and Chiapas. In 1972, the average coffee-farm size was estimated at around 3 hectares, although some farms were as large as 300 hectares (the maximum allowed under the Mexican agrarian laws). The vast majority of farms, however, consist of fewer than 5 hectares. *Ejid*os (small communal holdings) are estimated to account for about 60 percent of coffee area, but produce only around 35 percent of total output. Yields on *ejidos* are extremely low compared with those on large, privately owned holdings, which characteristically utilize improved technology and cultural practices.

Mexico: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield ¹	Production as share of total world production
	1,000 60-kg bags	60 kg/ha	Percent
1960/61	2,100	5.9	3.2
1965/66	3,000	8.4	3.7
1970/71	3,200	9.0	5.5
1975/76	4,200	11.8	5.7
1976/77	3,650	10.3	6.0
1977/78	3,600	10.1	5.2
1978/79 ²	3,800	10.7	5.1

¹ Yield based on planted area. ² Forecast based on FAS coffee circular FCOF 1-79, Jan. 1979.

Sources. U.S. Agricultural Attaché and Foreign Agriculture Service coffee circulars.

Production policies and programs. Mexico's production policies are aimed at attaining a greater share of the world coffee market by increasing the efficiency of the industry. The Government's production goal for 1981/82 is projected at 7 million bags, with no significant change in cultivated area. The focus of long-term production policies is to increase significantly yield per unit area planted to coffee. Government policies and programs currently seek to encourage better cultivation practices, increased use of fertilizers, gradual replacement of old trees with high-yielding, rust-resistant varieties, and increasing planting densities. In 1976, it was estimated that about 40 percent of Mexico's coffee trees were too old for maximum production. Among the cultural practices, one program calls for educating farmers in the use of grafting techniques to increase the number of lateral branches and thus yields per tree.

Coffee production policies are implemented by the Mexican Coffee Institute (INMECAFE), a quasi-governmental entity, founded in 1958 to succeed the

National Coffee Commission. It is responsible for a variety of regulatory and program functions. In the area of production policies and programs, INMECAFE provides technical assistance, free seeds and seedlings, sells fertilizer, and sets minimum prices to producers. Efforts currently underway focus on expanding the infrastructure for producing cherry coffee, improving the general credit structure available to growers, and pooling resources into more economic production and marketing units.

Achievement of INMECAFE's optimistic production goals for the early 1980's—while reasonable, given existing technology—will depend internally on how effective Government programs are in inducing *ejidos* to increase production and externally on the level of market prices growers receive for their coffee. Currently, Mexican policymakers do not seem to be concerned about surplus production. They appear confident that they can find outlets for increased production abroad as well as in the domestic market.

Mexico: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	27.61	46.06	59.9
1973	39.76	57.55	69.1
1974	50.57	64.47	78.4
1975	41.42	59.93	69.1
1976	60.09	113.44	53.0
1977 ¹	110.41	216.89	50.9

¹ 11-month average only for prices to growers. Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing. The bulk of Mexico's coffee, harvested largely during October-December, is processed by the wet method. Larger private producers usually have their own processing plants where they depulp, ferment, wash, and dry their coffee. In contrast, small-scale producers typically sell their coffee in the cherry form to regional processing plants (*beneficios*).

Methods of producer marketing differ among the various coffee regions because of location and road accessibility. In Veracruz, for example, which annually produces about 24 percent of the total crop, the road system is good and there are a large number of private and INMECAFE processing mills that enable producers to sell their coffee in the cherry form (cherry coffee must be processed within 24 hours after harvest). In the large producing State of Chiapas, in contrast, roads are few and growers are more isolated. As a result, large *ejidos* and the major private producers customarily own their own mills and custom mill for small growers. Processed coffee is then sold at purchasing centers, which are managed by the private sector or large producers.

Domestic consumption trends and policies. Apparent domestic consumption of coffee, while varying from year to year, has generally trended upward since the early 1960's. Growth in domestic utilization can

be attributed to the doubling of the population, mushrooming urbanization, and increased disposable personal income. In addition, the domestic roasting industry has been free from foreign competition, since coffee imports are prohibited by law. In 1977/78, apparent domestic consumption was estimated to total around 1.6 million bags or 44 percent of total production. However, analysis of coffee consumption in Mexico is complicated by the fact that domestic coffee is typically adulterated with extenders such as garbanzos (chickpeas).

In the early 1970's, when stocks were high and prices low, the Government prohibited adulteration in order to reduce stocks. During the recent price boom, domestic coffee became increasingly adulterated and for a time soluble coffee was unavailable to urban consumers as exporters took advantage of record international prices. In order to insure domestic supplies, the Government in April 1977 implemented a marketing policy that sought to channel one bag of coffee into the lower priced domestic market for every two bags exported. The reserve stock was handled by INMECAFE acting, as the sole distributor to domestic processors and roasters. Recently, the Confederation of Mexican Coffee Producers called for the Government to discard the domestic coffee-reserve plan, terming it an unnecessary tax on free commerce.

Mexico: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>kg</i>
1960/61	600	28.6	37.27	1.0
1965/66	1,300	43.3	44.14	1.5
1970/71	1,512	47.2	52.45	1.7
1975/76	1,540	36.7	62.33	1.5
1976/77	1,250	34.2	64.59	1.2
1977/78	1,600	44.4	66.85	1.4
1978/79 ¹	1,700	44.7	68.11	1.5

¹ Forecast. Sources: Consumption data from U.S. Agricultural Attaché. Population data based on UN Monthly Bulletin of Statistics (midyear estimate), with FAS estimate in forecast year.

Trends in export marketing and policies. Concomitant with increasing production, exports have trended upward in recent years, reaching a record 2.9 million bags of green, roasted, and soluble coffee in

1975/76. Green coffee typically accounts for over 90 percent of Mexico's coffee exports, though exports of roasted coffee have trended slightly upwards in recent years.

Mexico: Exports of Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	1,384	81.5	17.3	1.2
1965	1,327	85.4	12.0	2.6
1970	1,414	73.5	24.0	2.5
1975	2,392	70.7	24.7	4.6
1976 ¹	2,751	66.0	31.6	2.4
1977	1,783	(²)	(²)	(²)
1978 ³	1,970	(²)	(²)	(²)

¹ Destination percentages based on import data, as export data by destination are unavailable.

² Unavailable. ³ Preliminary. Sources: International Coffee Organization, Pan American Coffee Bureau, INMECAFE.

The bulk of Mexican coffee exports goes to the U.S. market. West Germany is the second largest single traditional buyer. In recent years, Mexico has attempted to diversify its market outlets and lessen its dependence on the U.S. market. This policy has been fairly successful, as exports to the United States—as a percentage of total exports—have trended downward, while exports to Europe and Japan have grown.

Owing to its locational advantage, the United States likely will continue to be the dominant market for Mexican coffee. U.S. imports from Mexico are increasing in their relative importance: In 1977,

imports of green coffee from Mexico were valued at a record \$370.1 million, while imports of roasted coffee were valued at a record \$26.6 million. About 90 percent of U.S. imports of coffee from Mexico move across the border by truck-trailer. Traders report that sales made on any given day can be delivered by truck-trailer to Laredo, Texas, within 5 days and to roasting plants anywhere in the United States within 2 weeks. While sea transport is cheaper, it is also more time-consuming and in recent years more prone to disruption. Delivery of sales to border points by truck also expedites exporters' receipts of payment from buyers in the United States.

U.S. Imports of Green Coffee From Mexico, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total US green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. Dol.</i>	<i>Percent</i>
1960	1,102	57.7	5.0
1965	1,160	65.3	5.4
1970	982	63.6	5.0
1975	1,662	133.0	8.2
1976	1,869	253.6	9.4
1977	1,406	370.1	9.5
1978	1,390	272.2	7.7

Source: U.S. Department of Commerce.

Besides its role in production-oriented technical assistance, INMECAFE has a variety of marketing-related functions. These include distribution of export licenses, quality-control testing, and—if and when reinstated—administration of export quotas. INMECAFE maintains offices in all major producing areas and operates receiving stations and warehouses. Its buying centers provide an additional sales outlet for producers at guaranteed minimum prices.

Although INMECAFE has a strong regulatory influence on export marketing, actual INMECAFE exports tend to vary considerably from year to year. In 1973/74, when prices were relatively depressed, INMECAFE accounted for 42 percent of all green coffee exports. The balance was exported by private exporters and large corporations. However, during 1976/77, when prices began to rocket, INMECAFE accounted for only around 15 percent of exports, while private exporters and cooperatives accounted for about 75 and 10 percent, respectively.

The main reason for such a shift in market shares was that private exporters were able to pay increasingly higher prices, whereas INMECAFE, with limited finances (based on 1975 coffee price-derived appropriations), was unable to keep pace with rising prices. This situation eventually led to a lack of coffee for the domestic market and the two-for-one export policy enacted in April 1977 to correct the situation.

Mexico's coffee exports also provide the Government with an important source of revenue. In January 1977, the Government was receiving about \$136 per 46-kilograms in export taxes, compared with about \$59 and \$22 per 46-kilograms, respectively, in 1976 and 1975. The cost to exporters of coffee in 46-kilogram bags in early 1977 was about \$292, of which 47 percent went to producers, 47 percent to taxes, and 6 percent to processors. At that time, coffee on the world market was selling for

around \$315 per 46 kilograms, allowing a return of about \$23 for exporters.

Nicaragua

Status of the Industry

Nicaragua is a small producer of high-quality mild Arabica coffee, accounting for about 1.4 percent of the world crop for 1977/78. Coffee growing was the country's main economic activity until the early 1960's, when it was forced into second place by cotton. Sugar and meat constitute the other major export commodities for an economy highly dependent on a few primary products.

High prices for coffee in 1976 and 1977 helped the industry regain some of its lost status as record export earnings were reached. With high prices for cotton as well as coffee, the Nicaraguan agricultural and trade sectors have made significant advances over the past 2 years. In 1978, increased volume of coffee exports partially offset the decline in export prices. It is difficult, however, to estimate the adverse impact of domestic turmoil on the economy in general and the coffee sector in particular.

Despite its long-standing importance to the economy, coffee traditionally has been a subsistence crop with no organized plan to increase production. This situation appears to be changing. It is estimated that there are about 9,000 coffee growers in Nicaragua—primarily in the Pacific and northern regions—10 percent of whom account for about 90 percent of total production. The IMF estimates that the coffee sector contributes about 4 percent of GDP and employs more than 20,000 persons on a permanent basis.

Nicaragua: Value of Coffee Exports in Relation to Total Exports, Selected Years, 1960/61-1978/79

Year (Jan.-Dec.)	Total exports	Coffee exports	Coffee exports as share of total exports	Indexes of unit value for coffee exports (1975=100)
	<i>Mil. Dol.</i>	<i>Mil. Dol.</i>	<i>Percent</i>	<i>Index</i>
1960	62.6	19.2	30.7	74
1965	148.4	26.3	17.7	79
1970	178.6	33.1	18.0	90
1975	375.2	48.1	12.8	100
1976	541.9	119.4	22.0	191
1977	633.1	198.8	31.4	338

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979.

Coffee Production

Trends. Nicaragua ranks last in Central American coffee production (excluding Panama) with an annual crop that has averaged 737,000 bags annually over the past 8 years, but now is forecast to have reached the 1-million-bag mark. The 1975 frost in Brazil was a welcome development to the Nicaraguan coffee sector. Prior to the frost, low world prices had reduced the profitability of coffee production considerably. In order to keep production costs low, growers greatly reduced use of fertilizer, renovation of orchards, and application of new technology. In anticipation of higher prices in 1976 and 1977, individual growers and the Government together responded to push up production. From a pre-frost crop of 700,000 bags in 1974/75, the Nicaraguan coffee sector expanded production by 16 and 17 percent in each of the following seasons.

Based on official information from the Central Bank and the Nicaraguan Coffee Institute (INCAFE), area planted, which had remained relatively stable at

about 84,000 hectares for several years, has increased to 107,000 hectares for the 1978/79 season. In spite of the existence of considerable additional areas suitable for coffee production, it has not been Government policy to promote increased plantings. Prior to the coffee price explosion, yields per hectare were generally low, as virtually no fertilizer was used and the average age of Nicaragua's coffee trees was considerably higher than the optimum age for maximum productivity. The coffee sector, prior to the frost, probably was the most stagnant of Nicaragua's agricultural export sectors.

Since the frost, heavy fertilizer applications, new plantings, rejuvenation programs, generally improved cultural practices—along with good weather—have combined to foster a significant upturn in yields. Nicaraguan yields, while still below those of Costa Rica and El Salvador, can be expected to continue their strong upward trend—provided prices remain remunerative to growers and a significant level of reinvestment of growers' profits and Government revenues are maintained within the coffee sector.

Nicaragua: Coffee Production, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Production	Yield	Production as share of total world production
	<i>1,000 60-kg bags</i>	<i>60-kg/ha</i>	<i>Percent</i>
1960/61.....	485	5.9	0.7
1965/66.....	465	5.5	0.6
1970/71.....	650	7.7	1.1
1975/76.....	813	9.5	1.1
1976/77.....	867	9.9	1.5
1977/78.....	967	10.8	1.4
1978/79.....	1,075	11.4	1.4

¹ Forecast based on Foreign Agricultural Service coffee circular FCOF 1-79, Jan. 1979. Source: U.S. Agricultural Attaché and FAS coffee circulars.

Production policies and programs. In recent years, the Government's broad production policy has been to improve standards of cultivation and processing without encouraging expansion of planted coffee area. There was neither a support price program nor a minimum export price system. From a long-run point of view, there has existed a financial plight among coffee producers that has reflected the lack of needed investment to upgrade the country's coffee sector. Through the years of low prices and limited Government loans, the average grower was forced to finance crops with loans from commercial banks, coffee intermediaries, or lenders because he lacked the financial resources and management know-how to finance his own crops.

With the upturn in prices in the post-frost era, higher profits have given producers the opportunity to free themselves from debt burdens and channel some profits into yield-increasing investments. From the Government side, Nicaragua's National Bank has begun to provide 5-year loans for the renovation of coffee plantings. This program has picked up considerable impetus since 1975. The Government also has encouraged the formation of producer cooperatives.

Policy implementation is handled by INCAFE, an autonomous Government agency that gives technical aid to growers, and through the Center for Coffee Experimentation, which conducts coffee research to help producers. INCAFE also has responsibility for all

matters related to Nicaragua's membership in the International Coffee Agreement.

In November 1976, Nicaragua's policymakers were presented with the serious challenge of fighting an outbreak of coffee rust fungus (*Hemileia vastatrix*). The Ministry of Agriculture has shown strong leadership and initiative in its efforts to control the disease. To date, officials in Nicaragua and throughout Cen-

tral America are satisfied with their success in controlling the spread of the disease. The control program implemented called for a quarantine of infected areas and eradication of infected trees. A special tax of \$5 per 46 kilograms has been applied to all coffee exports since the end of 1976 to fund the coffee-rust control and eradication program.

Nicaragua: Coffee Prices, 1972-77

Year	Price to grower	Export price	Price received by growers as share of unit export values
	<i>Cents/lb</i>	<i>Cents/lb</i>	<i>Percent</i>
1972	38.82	46.02	84.3
1973	45.85	54.96	83.4
1974	61.02	62.82	87.3
1975	46.87	62.17	97.1
1976	87.21	103.99	83.9
1977 ¹	118.48	141.20	84.1

¹ 11 months only for price to grower. Source: International Coffee Organization.

Coffee Marketing

Trends in processing and internal marketing. Most of the coffee in Nicaragua is processed by the wet method. The coffee market is a free-enterprise system but the National Institute for Foreign and Domestic Trade regulates prices to growers by direct buying, mainly from smallholders. As an autonomous trading organization, it also does some exporting. There are relatively few private coffee exporters active in the country. Producers, in general, have been indifferent to the Government-operated marketing office on the grounds that it represents excessive Government intervention in coffee marketing. With higher coffee prices and improved financial health, coffee producers are in a stronger position to deal with intermediary dealers, and this may also lead to the formation of more producer cooperatives.

Domestic consumption trends and policies. Local consumption of coffee is approximately equal to the volume of lower grade coffee beans produced annually. This culled—or second grade—coffee, which is not of exportable quality, ranges from about 8 to 12 percent of the coffee crop. Some of these lower grades of coffee are converted into soluble coffee, mainly for the Managua market. A considerable amount of domestic consumption, however, takes place in rural areas. Domestic prices have had a depressing impact on the upward consumption trend. During the price boom, domestic prices changed just as fast and as often as world prices. Local prices reached as high as \$3.50 per pound during 1977. More recently, domestic retail prices have been declining.

Nicaragua: Apparent Domestic Coffee Consumption, Selected Years, 1960/61-1978/79

Year (Oct.-Sept.)	Apparent consumption	Consumption as share of total production	Population	Consumption per capita
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Millions</i>	<i>Kg</i>
1960/61	42	8.7	1.45	1.7
1965/66	55	11.8	1.66	2.0
1970/71	80	12.3	1.89	2.5
1975/76	76	9.3	2.23	2.1
1976/77	78	9.0	2.31	2.0
1977/78	80	8.3	2.39	2.0
1978/79 ¹	83	7.7	2.47	2.0

¹ Forecast. Source: Consumption data—U.S. Agricultural Attaché. Population data based on UN monthly Bulletin of Statistics (midyear estimate), with FAS estimate in forecast year.

Trends in export marketing and policies. Mainly reflecting a string of record or near-record crops, Nicaragua has registered new highs in its volume of coffee exports. This volume, combined with a near-doubling of the unit export price, led to an increase of 150 percent in the value of coffee exports in 1976 to \$120 million and almost \$200 million in 1977. In 1978, the increasing volume of exports partially offset the decline in prices. Coffee export earnings for

1978 (Jan.-Sept.), according to the IMF, totaled \$167 million, compared with \$156 million for the same period in 1977.

Nicaragua's exports are dominated by sales to the European markets—mainly West Germany, Belgium, and the Netherlands. The U.S. market has been declining in relative importance during recent years, although record sales were registered by Nicaragua in 1976, 1977, and 1978.

Nicaragua: Exports of Green Coffee, Selected Years, 1960-78

Year (Jan.-Dec.)	Total exports	To United States	To Europe	Other
	<i>1,000 60-kg bags</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1960	361	52.0	47.5	0.5
1965	508	56.2	43.3	0.5
1970	503	26.7	72.1	1.2
1975	674	13.7	82.8	3.5
1976 ¹	802	19.3	70.3	10.4
1977 ¹	802	14.7	75.0	10.3
1978 ²	855	(³)	(³)	(³)

¹ Destination percentage based on import data, as export data by destination are unavailable. ² Preliminary. ³ Unavailable. Source: International Coffee Organization, Pan American Coffee Bureau, Instituto Nicaragüense de Café.

Until recently, there was practically no direct taxation of coffee exports in Nicaragua. As a result, the effect of coffee taxation on Government finances was negligible. For 1977 and 1978, however, the collection of income taxes on net coffee export earnings and the tax to fund coffee-rust eradication measures have significantly increased Government revenues from coffee. The IMF estimated that in 1977, 6 percent of total Government revenues were derived from coffee taxes.

Nicaragua's relatively low rate of taxation is estimated to leave the coffee sector with one of the highest profit margins for coffee production in Central America. The cost of producing coffee, however, has been rising in recent years. Factors putting an upward pressure on production costs include the campaign against coffee rust, rising minimum wages for labor, and the growing competition for manpower (mainly from the cotton industry).

U.S. Imports of Green Coffee from Nicaragua, Selected Years, 1960-78

Year (Jan.-Dec.)	Volume	Value	Share of total U.S. green coffee import volume
	<i>1,000 60-kg bags</i>	<i>Mil. Dol.</i>	<i>Percent</i>
1960	175	8.4	0.8
1965	251	13.9	1.1
1970	128	8.4	0.6
1975	71	4.9	0.3
1976	155	21.4	0.8
1977	119	29.8	0.8
1978	147	33.2	0.8

Source: U.S. Department of Commerce.

Other Producers—South America

In addition to the major producers in Latin America,⁹ there are several countries that produce and export relatively small quantities of coffee. All of these countries—Bolivia, Paraguay, Jamaica, Panama, Trinidad, and Tobago—are members of the International Coffee Organization.

Bolivia

Coffee production has always been of secondary importance in Bolivia's economy. While agricultural exports in general have been growing, the country's foreign-exchange earnings continue to be dominated by the mining sector, especially tin. In recent years, however, the Government has shown increased interest in coffee. Production has moved up, mainly as a result of the increased numbers of trees planted. The Bolivian Coffee Committee (COBOLCA) has plans to encourage the planting of new trees over the next 5 years. If realized, production of unwashed Arabicas could double the present 180,000-bag level. Of total current annual production, about 70 percent is exported, mainly to the United States. Enhancement of the coffee sector's economic viability requires increasing the level of technical assistance, improving credit facilities to farmers, and upgrading processing facilities and internal marketing systems.

Paraguay

Production of coffee in Paraguay is limited by climatic conditions, such as occasional frosts and strong cold winds in winter. The coffee produced and processed by the dry method is unwashed Arabica. The Central Bank of Paraguay reports that coffee exports were valued at the equivalent of \$7.8 and \$10.1 million, respectively, in 1976 and 1977, accounting for 4.3 and 3.6 percent of total export earnings for the 2 years. The bulk of Paraguay's foreign-exchange earnings come from other agricultural exports, mainly oilseeds, cotton, and meat.

⁹Cuba, while included in FAS production estimates, has been excluded from this study because of the limited information available on production and trade policies. Cuba is not a member of the International Coffee Organization.

Other Producers—North America

Jamaica

Jamaica is a marginal coffee producer and exporter. Though ecologically unfit for extensive production of Arabica coffee, its Blue Mountain Arabica is world-famous. True Blue Mountain coffee is grown at altitudes over 1,500 meters and represents only a small percentage of the country's total output, forecast at 20,000 bags for 1978/79. Production is partly affected by the good-year-bad-year cycle phenomenon. This cyclical effect on yields shows a distinct and well-established pattern in Jamaica, particularly in areas where relatively low levels of fertilizer are used.

Domestic consumption of coffee is relatively low—about 17,000 bags annually. Jamaica normally seeks to maximize exports of higher priced domestic coffee by substituting lower quality, lower priced imported types in the domestic market. Imported coffee—mainly Costa Rican Arabicas and Robustas from Trinidad—normally supplies more than half of local demand.

Japan and the United States are the major markets for Jamaican green coffee. In 1973, Japan loaned Jamaica \$1 million to expand coffee production. The loan has been largely extended to producers in the Blue Mountain area. Currently the Government is exploring the possibility of further expansion of the coffee growing area in the Blue Mountain region.

Panama

Coffee growing has never achieved a position of primary importance to the Panamanian economy. In 1976, for example, coffee exports earned \$3.2 million, compared with \$61.5 million for bananas, Panama's chief agricultural export. Green-coffee exports for 1977 totaled 22,928 bags valued at \$5.5 million.

While coffee is grown in all of the provinces of Panama, production is concentrated in Chiriqui, which normally accounts for a little more than 50 percent of total production and the bulk of exportable-quality coffee. In contrast to other provinces, Chiriqui possesses the soil types, rainfall patterns, and the higher altitudes necessary to produce high-quality Arabica coffee.

Normally, about 80 percent of total production goes to the domestic market and the remainder to

export. In some years, however, Panama has imported certain grades of coffee for the domestic market while exporting a high percentage of its Chiriqui coffee. In 1977, Panama had a shortage of coffee for the domestic market. As a result, the Government fixed an export quota on exportable-grade coffee and set four different levels of export taxes. These taxes include a right-to-export tax of \$20 per 60-kilogram bag, a domestic-consumption subsidy tax of \$14 per bag, a reserve-fund tax on exports valued at \$130-\$145 per bag, and a tax that will take all the amount above \$145 per bag and place it in a second reserve fund. The Government's stated objectives for these measures are to insure adequate domestic supplies, increase returns to producers, and redistribute any excess profits made by exporters.

Trinidad & Tobago

In Trinidad and Tobago, coffee—mainly of the Robusta variety—represents a small but complementary export crop. Sugar and cocoa are the primary agricultural sources of foreign exchange. Petroleum, however, has been the country's main source of income. In 1976, petroleum exports totaled \$2.03 million or 91 percent of total export earnings.

Natural disasters or unfavorable climatic conditions such as hurricanes and drought have caused some year-to-year fluctuations in coffee output. Growers have reacted to higher prices by picking crops thoroughly or by introducing some of the simpler crop-improvement techniques. Growers traditionally have received good prices for their output in relation to final export prices.

Production policies and programs have varied considerably over the years, largely as a result of changing demand and price conditions. Generally, there have been two policy problem areas: increasing producer efficiency, and increasing credit accessibility. Yield improvement policies and programs traditionally have been restrained by the general policy of not fostering overproduction. This policy in the past has resulted in discouraging greater production of

coffee to the dissatisfaction of many coffee growers. In periods of high prices, this policy has been altered by more aggressive extension work and the granting of producer subsidies.

Credit accessibility has been dealt with by either tightening or loosening credit, given the circumstances of the situation. Institutionally, loans for coffee growers are offered through the Agricultural Credit Bank, a Government-financed organization that grants both short-term crop advances and long-term development loans on mortgage agreements.

The internal as well as the export marketing of coffee is handled through a licensing program administered by the Cocoa and Coffee Industry Board, a statutory authority set up through the Ministry of Agriculture. The Board grants licenses to buying agents, who purchase coffee from farmers at prices set by the Board. The coffee is then transferred to exporters, who are also licensed by the Board. The minimum price for coffee to be paid to farmers by buying agents is fixed on an annual basis. Licenses to buying agents and exporters also are granted on an annual basis. The Government's overall internal market policy strategy is to ensure remunerative levels of return to coffee growers.

Domestic consumption of coffee on a per capita basis is fairly low. Because of the country's hot climate, conditions are not conducive to high consumption. In addition, the islands continue to have a strong preference for tea. Even though domestic green-coffee supplies are adequate to fulfill domestic needs, a small amount of soluble coffee is imported, as internal demand is too small to justify the establishment of a soluble coffee plant.

Aggregate coffee exports of green coffee and the bean equivalent of roasted and soluble coffee totaled 41,580 bags in 1976/77. Coffee beans accounted for approximately 74 percent of total exports. The bulk of coffee exports went to the United States, including Puerto Rico. The United Kingdom and Latin American destinations are also significant year-to-year purchasers. The Robusta variety accounts for approximately 95 percent of total coffee exports. Trinidad's Robusta ranks high among the better Robustas, and is readily accepted in overseas markets.

Coffee Production, Selected Producers, Selected Years, 1960/61-1978/79
(1,000 60-kilogram bags)

Year (Oct.-Sept.)	Bolivia	Paraguay	Jamaica	Panama	Trinidad & Tobago
1960/61.....	50	20	25	65	55
1965/66.....	65	90	23	70	39
1970/71.....	75	33	20	75	49
1975/76.....	100	40	30	75	42
1976/77.....	104	20	18	78	44
1977/78.....	149	30	24	96	44
1978/79 ¹	180	40	20	92	60

¹ Forecast based on coffee circular FCOF 1-79, Jan. 1979. Sources: U.S. Agricultural Attaché, Foreign Agricultural Service coffee circulars.

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Appendix II—Latin America: Value of Coffee Export Earnings¹ for Major Producers, 1960-1977

(Millions of U.S. dollars)

Country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Brazil	713	710	643	748	760	707	764	705	775	813	939	773	989	1,244	864	855	2,173	2,299
Colombia	332	308	332	303	394	344	339	322	352	344	467	400	430	598	625	672	977	1,526
Costa Rica	45	45	48	45	48	47	53	55	55	56	73	59	78	94	125	97	154	319
Dominican Rep.	23	14	20	19	30	21	21	17	18	22	29	23	30	47	46	43	101	185
Ecuador	22	14	21	18	22	37	32	40	35	27	51	37	47	65	68	64	205	157
El Salvador	77	70	76	75	93	96	90	99	94	89	121	108	131	159	195	172	384	611
Guatemala	79	69	68	77	71	92	100	68	73	82	101	96	105	146	173	164	243	526
Haiti	17	14	21	16	19	20	18	14	13	14	15	20	17	21	24	21	47	67
Honduras	12	9	11	14	17	22	20	18	21	19	26	23	27	45	42	57	100	168
Mexico	72	72	70	49	95	73	84	60	77	73	86	81	86	157	154	185	337	429
Nicaragua	19	17	15	17	21	26	22	21	23	21	32	29	33	44	46	48	119	199
Peru	19	23	24	26	37	29	29	30	36	30	45	36	47	64	35	47	111	182
Venezuela	21	19	15	17	18	17	17	15	8	15	17	19	18	19	23	21	38	51
Total	1,451	1,384	1,364	1,424	1,625	1,531	1,589	1,464	1,580	1,605	2,002	1,704	2,038	2,703	2,420	2,446	4,989	6,719

Note: U.S. dollar values based on current prices. Sources: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979; International Coffee Organization; U.S. Agricultural Attachés. ¹ Export earnings derived from International Monetary Fund statistics, the primary source of data for this table, are for unprocessed coffee only.

Appendix III—Latin America: Trends in Production, 1960/61-1978/79

Year (Oct.-Sept.)	Brazil	Colombia	Other Latin America ¹	Total Latin America	Total world	Latin America as percent of world total
	<i>Mil. Bags²</i>	<i>Mil. Bags</i>	<i>Mil. Bags</i>	<i>Mil. Bags</i>	<i>Mil. Bags</i>	<i>Percent</i>
1960/61.....	29.0	7.7	11.2	47.9	65.6	73.0
1961/62.....	35.0	7.8	11.0	53.8	72.1	74.6
1962/63.....	27.0	7.5	12.2	46.7	67.4	69.3
1963/64.....	28.2	8.2	13.0	49.4	71.0	69.6
1964/65.....	10.0	7.6	12.6	30.2	50.6	59.7
1965/66.....	37.7	8.2	13.5	59.4	81.6	72.8
1966/67.....	20.0	7.6	12.6	40.2	60.6	66.3
1967/68.....	23.0	8.0	14.3	45.3	68.6	66.0
1968/69.....	16.5	7.9	13.4	37.8	61.1	61.9
1969/70.....	19.0	8.5	14.3	41.8	66.4	63.0
1970/71.....	9.8	7.8	14.9	32.5	58.3	55.7
1971/72.....	23.6	7.2	16.0	46.8	71.8	65.2
1972/73.....	24.0	8.8	16.1	48.9	76.6	63.8
1973/74.....	14.5	7.8	15.9	38.2	62.5	61.1
1974/75.....	27.5	9.0	17.7	54.2	80.5	67.3
1975/76.....	23.0	8.5	17.5	49.0	73.5	66.7
1976/77.....	9.3	9.3	16.8	35.4	61.2	57.8
1977/78 ³	17.5	10.3	17.4	45.2	69.6	64.9
1978/79 ⁴	20.0	10.8	18.5	49.3	74.5	66.2

¹ "Other Latin America" includes the Other Mild producers: Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Ecuador, Guyana, Peru, and Venezuela; the Unwashed Arabicas: Bolivia and Paraguay, and the Robusta producer: Trinidad-Tobago. ² 1 bag = 60 kilograms. ³ Estimate. ⁴ Forecast based on Foreign Agricultural Service coffee circular FCOF-1, Jan. 1979.

Appendix IV—Latin America: Trends in Coffee Prices by Representative Grades (1975-1978 by month)

(in U.S. cents per pound)

Year and month	Colombian Milds	Brazil Santos 4	Central America, Ex-dock
1975			
July	82.65	68.50	65.50
August	100.47	96.04	83.39
September	90.79	95.50	80.86
October	90.22	95.36	80.40
November	88.00	94.06	77.53
December	93.92	98.15	83.24
1976			
January	100.80	109.05	92.81
February	106.07	118.83	99.14
March	106.23	116.13	99.54
April	133.07	133.90	122.61
May	155.83	148.60	135.37
June	183.63	150.63	144.95
July	160.00	151.08	136.82
August	183.90	150.45	153.00
September	181.15	154.59	159.55
October	183.98	162.28	172.88
November	185.93	182.82	182.82
December	209.60	212.53	208.67
1977			
January	220.04	247.26	219.04
February	245.13	262.55	246.00
March	312.28	359.09	304.47
April	318.98	369.00	317.51
May	288.26	326.88	285.18
June	266.30	319.95	261.22
July	229.03	316.84	222.19
August	205.78	315.00	200.23
September	195.00	315.00	189.76
October	180.94	315.00	171.08
November	203.93	317.50	197.95
December	207.79	227.86	205.50
1978			
January	207.12	216.36	209.28
February	200.70	200.44	197.97
March	186.27	166.56	174.75
April	194.34	168.95	181.84
May	192.45	161.26	170.71
June	185.13	167.09	161.05
July	177.13	147.46	134.60
August	177.18	144.63	138.93
September	181.61	152.99	156.35
October	174.00	153.33	154.46
November	173.18	150.21	146.32
December	172.36	143.15	131.98

Source: G. Gordon Paton, Jr., Co., Inc., "Complete Coffee Coverage."

Appendix V—National Coffee Organizations in Latin America

Bolivia

Comité Boliviano del Café

Brazil

Centro do Comercio de Cafe do Rio
Instituto Brasileiro do Cafe
Sociedade Rural Brasileira

Colombia

Asociación Nacional de Exportadores de Café
Federación Nacional de Cafeteros

Costa Rica

Cámara Nacional de Agricultura
Oficina del Café

Dominican Republic

Café Dominicano
Secretaría de Estado de Agricultura, Director General del
Café y Cacao

Ecuador

Corporación de Exportadores Independientes de Cacao y
Café del Ecuador
Instituto Ecuatoriano del Café
Ministerio de Agricultura y Ganadería, Programa del Café
Sociedad de Exportadores de Cacao y Café

El Salvador

Asociación Cafetalera de El Salvador
Asociación Salvadoreña de Beneficiadores y Exportadores
Cia. Salvadoreña de Café, S.A.
Departamento Nacional del Café
Instituto Salvadoreño de Investigaciones del Café
Ministerio de Agricultura y Ganadería

Guatemala

Asociación General de Agricultura, Gremial de Cafecul-
tores
Asociación Nacional del Café

Haiti

Department of Agriculture, Natural Resources and Rural
Development
Institut Haitien de Promotion du Cafe et des Denrees
d'Exportation

Honduras

Asociación de Exportadores de Café
Oficina del Cafe, Banco Nacional de Fomento

Jamaica

Coffee Industry Board
Jamaica Agricultural Society

Mexico

Camara Nacional de la Industria de Transformación, Sec-
ción de Molinos y Tostadores de Café
Instituto Mexicano del Café

Nicaragua

Instituto Nicaragüense del Café
Ministerio de Agricultura y Ganadería, Sección Cafeteria
Sociedad Cooperativa Anónima de Cafeteros de Nicaragua

Panama

Instituto de Fomento Económico

Peru

Asociación Nacional de Tostadores

Venezuela

Asociación Venezolana de Cafecultores
Dirección de Extensión, Sección de Cafe
Fondo Nacional del Café y Cacao

Trinidad & Tobago

Cocoa and Coffee Industry Board

Source: Ukers' International Tea and Coffee Buyers' Guide,
1976-1977, 27th Edition.

Appendix VI—Coffee Terminology

DRIED COFFEE CHERRY: The dried fruit of the coffee tree; to find the equivalent of dried coffee cherry to green coffee, multiply the net weight of the dried coffee cherry by 0.50.

FERMENTING: A step in the preparation of ripe coffee, consisting of putting the pulped coffee into tanks, with or without water. This process takes hours to days, according to altitude and temperature.

GREEN COFFEE: All coffee in the naked bean form before roasting.

GREEN COFFEE BAG: The standard bag of international commerce, weighing 60 kilograms or 132.276 pounds.

HULLING: A last step in the preparation of washed coffee, prior to grading. The operation is done by machines that remove the parchment and silver skin.

HUSKING: Cleaning coffee beans that have been dried in the cherry. Coffee is said to be "in the husk" when the whole fruit is dried without water treatment.

MILD COFFEES: Coffees produced in Latin American countries other than Brazil. A term originally used to indicate coffees that are free from the harsh Rio flavor.

PARCHMENT: The endocarp of the coffee fruit. It lies between the fleshy part or pericarp and the silver skin, and is removed during the hulling process. Coffee is said to be "in the parchment" when dried after the outer skin and pulp have been removed by water treatment.

PARCHMENT COFFEE: The green coffee bean contained in the parchment skin. To obtain the green bean equivalent, multiply by 0.80.

PULPING: The first step after picking in the preparation of coffee by the wet method. It consists in removing by machinery the outer skin. The machines rub away the pulp by friction without crushing the beans.

ROASTED COFFEE: Green coffee roasted to any degree and includes ground coffee. To obtain the green bean equivalent, multiply by 1.19.

SILVER SKIN: The thin, papery covering on the coffee bean surface inside the parchment.

SOLUBLE COFFEE. The water-soluble solid derived from roasted coffee. To obtain the green-bean equivalent, multiply by 3.00.

WASHED COFFEE: Coffee that has been pulped, fermented, washed, dried, and hulled. The ripe fruit is passed through a pulper, which takes off the outer skin. Fermentation and washing remove the gummy substance. Dry, hulling, and separating complete the preparation process.

Sources: Ukers' International Tea and Coffee Buyers' Guide, 1976-1977, 27th Edition; 1976 International Coffee Agreement.

Appendix VII—Latin America: Apparent Domestic Consumption, 1960/61-1978/79

Year (Oct.-Sept.)	Brazil	Other Latin America	Total Latin America	Consumption as percent of total Latin American production
	<i>Mil. bags¹</i>	<i>Mil. bags</i>	<i>Mil. bags</i>	<i>Percent</i>
1960/61	7.0	3.7	10.7	22.4
1961/62	7.0	4.2	11.2	20.2
1962/63	7.0	4.4	11.4	24.4
1963/64	7.0	4.3	11.3	22.9
1964/65	7.0	4.7	11.7	38.7
1965/66	7.5	4.8	12.3	20.7
1966/67	8.0	5.0	13.0	32.3
1967/68	8.3	5.3	13.6	30.0
1968/69	8.5	5.5	14.0	37.0
1969/70	8.8	5.7	14.5	34.7
1970/71	8.3	5.7	14.0	43.1
1971/72	8.8	5.9	14.7	31.4
1972/73	9.0	6.0	15.0	30.7
1973/74	8.1	6.3	14.4	37.7
1974/75	8.0	6.3	14.3	26.4
1975/76	8.0	6.0	14.0	28.6
1976/77	7.0	5.5	12.5	35.3
1977/78	7.5	6.2	13.7	30.7
1978/79 ²	8.0	6.4	14.4	29.2

¹ 1 bag = 60 kilograms. ² Forecast based on Foreign Agricultural Service coffee circular FCOF-1, Jan. 1979. Source: FAS/U.S. Department of Agriculture.

Appendix VIII—Latin America: Volume of Coffee Exports for Major Producers, 1960-1978

(1,000 60-kg bags)

Country	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978 ¹
Brazil	16,819	16,971	16,377	19,514	14,948	13,498	17,031	17,331	19,035	19,619	17,085	18,399	19,215	19,817	13,280	14,604	15,602	10,086	12,496
Colombia	5,938	5,651	6,561	6,134	6,412	5,635	5,566	6,094	6,588	6,478	6,508	6,569	6,528	6,766	6,906	8,175	6,289	5,323	9,034
Costa Rica	766	835	902	929	793	841	901	1,089	1,133	1,101	1,142	1,035	1,277	1,394	1,488	1,274	1,091	1,187	1,412
Dominican Rep.	481	327	487	460	573	376	418	374	379	447	487	421	526	668	584	531	700	738	528
Ecuador	522	381	551	499	417	764	728	953	815	627	879	777	904	1,162	988	1,072	1,531	923	1,637
El Salvador	1,178	1,430	1,478	1,586	1,755	1,655	1,619	2,030	1,982	1,900	1,865	1,689	2,083	2,489	2,554	3,062	2,666	3,015	2,346
Guatemala	1,329	1,255	1,552	1,693	1,446	1,510	1,864	1,323	1,485	1,633	1,599	1,685	1,856	1,919	2,215	2,158	2,142	2,173	2,191
Haiti	394	348	(²)	(²)	380	399	350	311	292	297	259	394	403	327	306	315	419	289	259
Honduras	258	210	266	334	309	417	376	365	437	396	423	419	544	664	515	812	722	599	958
Mexico	1,384	1,483	1,458	1,199	1,772	1,327	1,536	1,290	1,582	1,622	1,414	1,621	1,724	2,327	1,992	2,392	2,751	1,783	1,970
Nicaragua	361	349	338	467	430	508	422	429	448	452	503	530	580	622	557	674	802	802	855
Peru	440	567	624	668	548	696	586	630	792	732	734	710	915	973	442	720	703	741	912
Venezuela	408	406	319	390	327	299	303	310	162	320	273	329	293	246	277	229	298	188	236
Total	30,278	30,213	30,913	33,873	30,110	27,925	31,700	32,529	35,130	35,624	33,171	34,578	36,848	39,374	32,104	36,018	35,716	27,847	34,834

¹ Preliminary. Sources: International Coffee Organization, Pan American Coffee Bureau, U.S. Department of Agriculture.

² Unavailable.

Appendix IX—Latin America: Coffee Harvesting and Exporting Seasons

Country	Type of coffee	Main harvesting season	Main exporting season
Brazil	Arabica	April-September	Throughout the year
Colombia	Arabica	Throughout the year; Peak: October-March	Throughout the year
Costa Rica	Arabica	September-February	November-March
Dominican Republic	Arabica	September-February	November-March
Ecuador	Arabica	June-October	September-December
El Salvador	Arabica	November-March	December-March
Guatemala	Arabica	August-March	October-April
Haiti	Arabica	August-March	October-April
Honduras	Arabica	October-March	November-April
Mexico	Arabica	October-March	December-May
Nicaragua	Arabica	November-February	December-March
Panama	Arabica	October-December	November-January
Peru	Arabica	March-September	May-October
Trinidad & Tobago	Robusta	November-February	December-March
Venezuela	Arabica	October-January	November-February

Source: International Coffee Organization.

Appendix X—Coffee Quotas Under the 1976 International Coffee Agreement, Article 33 (part), Article 34, Article 35

Article 33—Provisions for the Introduction of Quotas.

(1) Unless the Council decides otherwise, quotas shall come into effect at any time during the life of this Agreement if:

(a) the composite indicator price remains on average, for 20 consecutive market days, at or below the ceiling of the price range currently in effect established by the Council under the provisions of Article 38 (Price Measures);

(b) in the absence of a decision by the Council to establish a price range:

(i) the average of the indicator prices for Other Mild and Robusta coffees remains on average, for 20 consecutive days, at or below the average of these prices for calendar year 1975 as maintained by the Organization during the life of the International Coffee Agreement 1968 as Extended; or

(ii) subject to the provisions of paragraph (2) of this Article, the composite indicator price calculated under the provisions of Article 38 remains on average, for 20 consecutive market days, 15 percent or more below the average composite indicator price for the preceding coffee year during which this Agreement was in force. Notwithstanding the preceding provisions of this paragraph, quotas shall not come into effect on the entry into force of this Agreement unless the average of the indicator prices for Other Mild and Robusta coffees remains on average, for the 20 consecutive market days immediately preceding that date, at or below the average of these prices for calendar year 1975.

(2) Notwithstanding the provisions of subparagraph (b) (ii) of paragraph (1) of this Article, quotas shall not come into effect, unless the Council decides otherwise, if the average of the indicator prices for Other Mild and Robusta coffees remains on average for 20 consecutive market days, 22.5 percent or more above the average of these prices for calendar year 1975.

(3) The prices specified in subparagraph (b) (i) of paragraph (1) and in paragraph (2) of this Article shall be reviewed and may be revised by the Council prior to 30 September 1978 and to 30 September 1980.

Article 34—Setting of the Global Annual Quota.

Subject to the provisions of Article 33, the Council shall, at its last regular session of the coffee year, set a global annual quota taking into account *inter alia* the following:

(a) estimated annual consumption of importing Members;

(b) estimated imports of Members from other importing Members and from nonmember countries,

(c) estimated changes in the level of inventories in importing Member countries and in free ports;

(d) compliance with the provisions of Article 40 concerning shortfalls and their redistribution; and

(e) for the introduction of quotas under the provisions of paragraphs (1) and (5) of Article 33, exports of exporting Members to importing Members and to nonmembers during the 12-month period preceding the introduction of quotas.

Article 35—Allocation of Annual Quotas

(1) In the light of the decision taken under the provisions of Article 34 and after deducting the amount of coffee required to comply with the provisions of Article 31 (Exporting Members Exempt from Basic Quotas), annual quotas shall be allocated in fixed and variable parts to exporting Members entitled to a basic quota. The fixed part shall correspond to 70 percent of the global annual quota, as adjusted to comply with the provisions of Article 31, and shall be distributed among exporting Members in accordance with the provisions of Article 30 (Basic Quotas). The variable part shall correspond to 30 percent of the global annual quota, as adjusted to comply with the provisions of Article 31. These proportions may be changed by the Council but the fixed part shall never be less than 70 percent. Subject to the provisions of paragraph (2) of this Article, the variable part shall be distributed among exporting Members in the proportion which the verified stocks of each exporting Member bear to the total verified stocks of all exporting Members having basic quotas, provided that, unless the Council establishes a different limit, no Member shall receive a share of the variable part of the quota in excess of 40 percent of the total volume of such variable part.

(2) The stocks to be taken into account for the purposes of this Article shall be those verified, in accordance with the appropriate rules for the verification of stocks, at the end of the crop year of each exporting Member immediately preceding the setting of quotas.

Appendix XI—Exchange Rates for Major Latin American Coffee Producers, 1960-1977

(National currencies per U.S. dollar)

Year	Brazil	Colombia	Costa Rica	Dominican Republic	Ecuador	El Salvador	Guatemala	Haiti	Honduras	Mexico	Nicaragua	Peru	Venezuela
1960	.205	6.700	5.635	1.000	15.000	2.500	1.000	5.000	2.000	12.500	7.026	26.760	3.220
1961	.318	6.700	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.810	3.220
1962	.475	9.000	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.820	3.220
1963	.620	9.000	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.820	3.220
1964	1.850	9.000	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.820	4.450
1965	2.220	13.510	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.820	4.450
1966	2.220	13.500	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	26.820	4.450
1967	2.715	15.820	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.450
1968	3.830	16.950	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.450
1969	4.350	17.930	6.635	1.000	18.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.450
1970	4.950	19.170	6.635	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.450
1971	5.635	21.000	6.635	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.350
1972	6.215	22.880	6.635	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.350
1973	6.220	24.890	6.650	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.285
1974	7.435	28.690	8.570	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	38.700	4.285
1975	9.070	33.092	8.570	1.000	25.000	2.500	1.000	5.000	2.000	12.500	7.026	45.000	4.285
1976	12.345	36.465	8.570	1.000	25.000	2.500	1.000	5.000	2.000	19.950	7.026	69.370	4.293
1977	16.050	38.112	8.570	1.000	25.000	2.500	1.000	5.000	2.000	22.736	7.026	130.380	4.293

Source: International Monetary Fund—International Financial Statistics, May 1978, Jan. 1979. Note: Exchange rates based on end-of-period market rates as defined by IMF, International Financial Statistics, May, Aug. 1978, p. 4.

